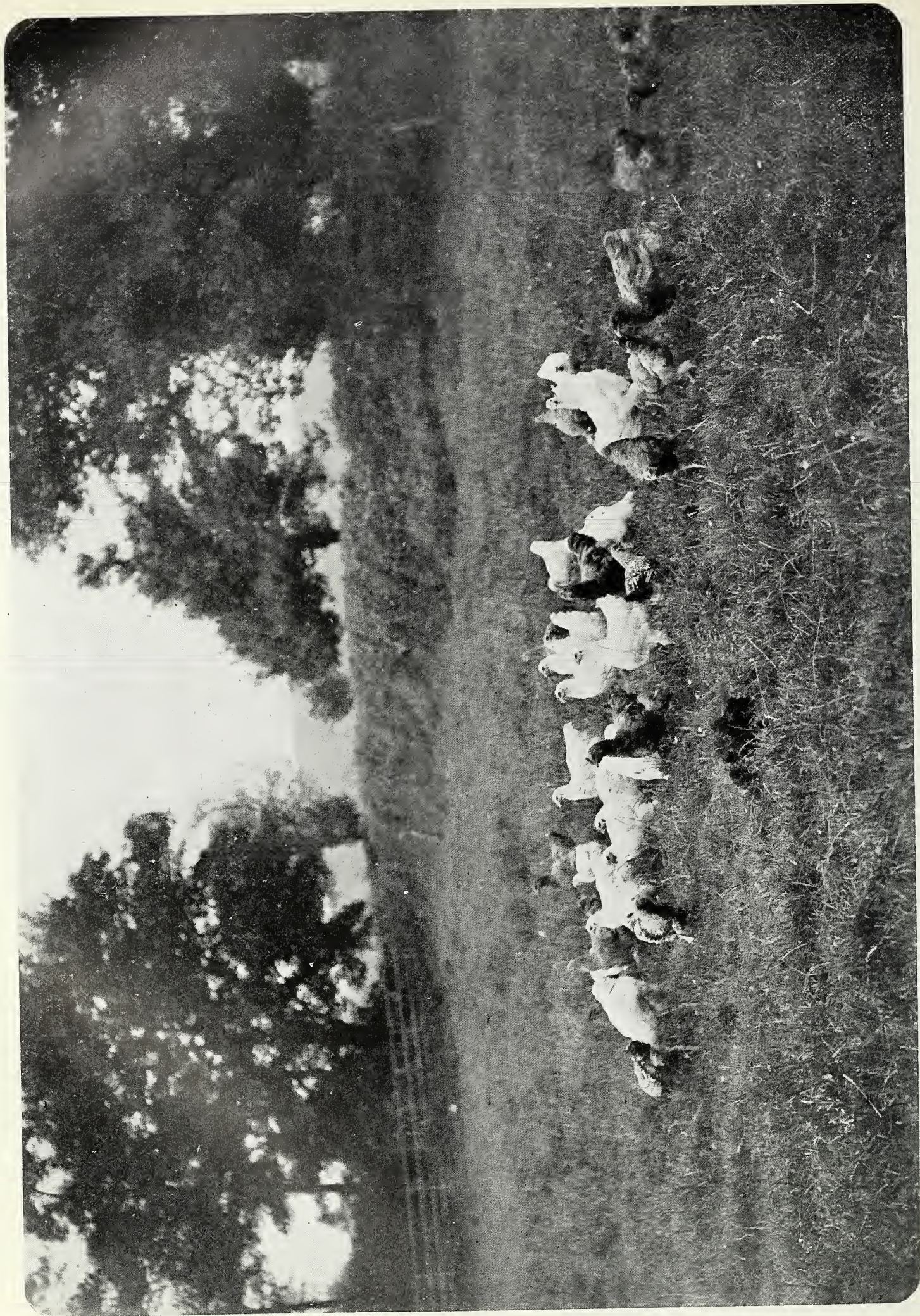


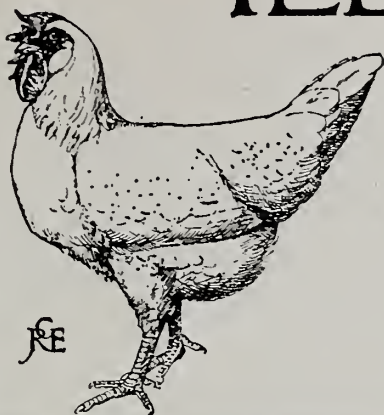
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MIXED FOWLS ON THE WORCESTERSHIRE POULTRY FARM.

THE ILLUSTRATED POULTRY RECORD



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EDITORIAL NOTICES.

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The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in THE ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to THE ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to Brown, Dobson, and Co., Limited.

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The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

Our Special Representative in America.

As announced in the May issue, arrangements had then been made for the Associate Editor of the Educational and Experiment Section, Mr. Will Brown, who had recently completed his labours as Secretary of the Scottish Poultry Committee, to proceed to America as special representative of the ILLUSTRATED POULTRY RECORD, with the purpose of visiting poultry-breeders, colleges, and experiment stations in Canada and the United States. Mr. Brown crossed the Atlantic on the Lusitania, sailing on May 8, and landing in New York on the following Friday morning. Since then he has had a busy time, and our last report was that he was in British Columbia. After visiting Washington, he spent a month in the Eastern States, around New York, in Rhode Island and Massachusetts, inspecting some of the great poultry plants to be found there, and making acquaintance with many of the best-known breeders, the fruits of which observations will appear in due course. He visited the station for experimental evolution, and had a day with Dr. Davenport before that gentleman sailed for England; also the college and experiment station at Kingston, Rhode Island, and Cornell University. Then he proceeded to Montreal and the Macdonald College at St. Anne-de-Bellevue, where Miss Macnaughton, an old Reading student and formerly of Kilmarnock, and Mr. Elford received him in the absence of Professor Robertson. At Ottawa he spent a day with Mr. Gilbert at the experiment station and a similar time at Guelph. After a short visit to Niagara he set out on the long trail to Winnipeg and Western Canada. Everywhere a warm welcome has been extended to him, and American hospitality has helped his work. We hope that

this extended tour will be the means of bringing poultry-breeders on both sides of the Atlantic into closer touch.

Irish Poultry Work.

Last October we gave some particulars of what has been done for the poultry industry in Ireland, and what it has done for the welfare of its people. In the present issue is given an account of the Co. Antrim Poultry Farm, which has contributed so much to the success achieved. The eighth annual Report of the Irish Department for Agriculture for 1907-8, just issued, records the large amount of work which is being done. The new scheme adopted by the Department is given in full, and is well thought out. It was put into operation in all the counties with the exception of Dublin, Limerick, and Queen's County. Twenty-eight itinerant instructors were employed in giving effect to the scheme, the duties of whom included the delivery of lectures on poultry-keeping, the conducting of tutorial and practical classes, visitation of poultry-keepers, and the inspection of egg-distribution stations. In some cases instruction classes took the place of ordinary lectures; such classes, usually of two weeks' duration at each centre, were essentially of a practical nature. The report states that during the year 895 lectures were given, with an average attendance of 66, and that 1,474 classes were held, at which the average attendance was thirteen. In addition, 9,245 visits were paid to poultry runs. An important part of the scheme is the distribution of eggs and keeping of stud turkeys, for which premiums are given to the owners. The total figures for the year are: Counties adopting the scheme, 30; number of meetings held, 895; number of classes held, 1,474; number of egg-distributing stations—hens only, 305; hens and ducks, 233; number of eggs distributed, 53,919 dozens; number of turkey stations, 467; number of geese stations, 92. The whole is an excellent record of valuable work.

Backward Wales.

The Principality is progressive in many directions, and its energetic people have proved what can be accomplished by determination and perseverance. Educationally and commercially it has set an example which is worthy of all praise, and its advance in agricultural combination has been very marked. But so far as the poultry industry is concerned it is very backward, and there have not been the developments in this direction which are to be met with in the greater part of England. Over many sections of the country there are fewer fowls to be seen on the farms, which are usually small in size, than is

generally the case. Yet the conditions, so far as climate and soil are concerned, are eminently favourable, and the markets of South Wales afford an outlet for produce which ought to give every encouragement. North Wales has the great populations of North and Mid-England near by. A calculation has been made that Wales does not more than half meet her own consumption of eggs and poultry, and that more than £600,000 per annum is expended on extraneous supplies, which sum could be easily secured by Welsh farmers. The reasons for this unsatisfactory state of things are, first, that the colleges and county authorities have done comparatively little to bring home to farmers the value of poultry-keeping, as the efforts put forward are limited and tentative; and, secondly, that the system of marketing is antiquated, so that goods are sent forward which are of a quality that means low prices. Thus there is no incentive to extend operations. It is not too much to say that Irish and foreign eggs are often of better quality than the native produce. The time has fully arrived when Wales should awaken to the need for adopting modern methods.

Sidelight on Laying Records.

How much the high average production in laying competitions is due to the small number of birds in each flock has never been determined, but that it has considerable influence seems to be unquestionable. It is well known that the bigger the flock the lower the average, and the reverse may be equally true down to the unit itself, though upon that evidence is wanting. We are led to these observations by reading a Study on Egg Production issued by the U.S. Department of Agriculture dealing with the Maine experiments, but which comes too late for more than a mention in this issue, in which it is stated:

When the laying hens were kept in flocks of 100 birds each, the average annual egg-production per bird was distinctly and significantly lower than when they were kept in flocks of 50 birds each, though the number of square feet of floor space per bird was the same in the two cases, and all other environmental conditions were made as nearly as possible identical.

Those conditions of housing and flock size which tend to lower the mean annual egg-production are found to tend to increase the variability of the production, so that poor producing flocks are at the same time very variable in production, and *vice versa*.

This is certainly a question for consideration in appraising the value of laying competitions. Nearly all high records are of small numbers. It would be valuable if we could compare the pullet records of 1, 5, 10, 25, and 50 birds respectively, of the same breed, hatched at the same time, and kept in the same manner.

The Poultry Club and its Critics.

During the thirty-one years of its existence the Poultry Club has come in for a good deal of criticism, much of it well deserved, whilst it is obvious that in some instances public criticism has been of undoubted assistance to the club, as criticism can be when impartial and offered with a sincere desire for efficiency. It is perfectly clear, for instance, that public criticism has enabled the council of the Poultry Club to realise the unpopularity of the new definition of a chicken for exhibition purposes adopted by them some

welfare of that body, and there is obviously a good understanding between the Poultry Club and its critics, or the work of the latter would have had no influence in guiding the destinies of the Fancy's governing body.

More Eggs Wanted.

The Secretary of the National Poultry Organisation Society calls attention in a letter to the Press to the continued decline in the volume of foreign supplies of eggs which has marked the last two years, and which has been increasingly apparent during the six months ending June 30



WELL-ARRANGED POULTRY PENS ON A FRENCH FARM.

[Copyright.]

months ago, and has prompted them to rescind their decision without further delay. One might even go back to the anti-dubbing movement of a few years ago for another instance of a case where criticism has led the club to rescind former decisions, and one cannot fail to be struck by the fact that in both these instances the Poultry Club has shown itself open to be convinced by outside opinions. It must be admitted, of course, that criticism of the Club has invariably been of a kindly nature, and intended primarily for the

of the present year. The quantities received show a reduction of 518,728 great hundreds, or 62,247,360 eggs, equal to 7 per cent., or twenty millions more than in the whole of 1908 as compared with 1907. The reduction in values is only £17,950, or $6\frac{1}{4}$ per cent. Prices in every case have advanced, except those from Russia, which are practically stationary, varying from $2\frac{3}{4}$ d. to 1s. $4\frac{1}{4}$ d. per great hundred, and the average increase in values is $5\frac{3}{4}$ d. per great hundred.

THE COLD STORAGE OF POULTRY.

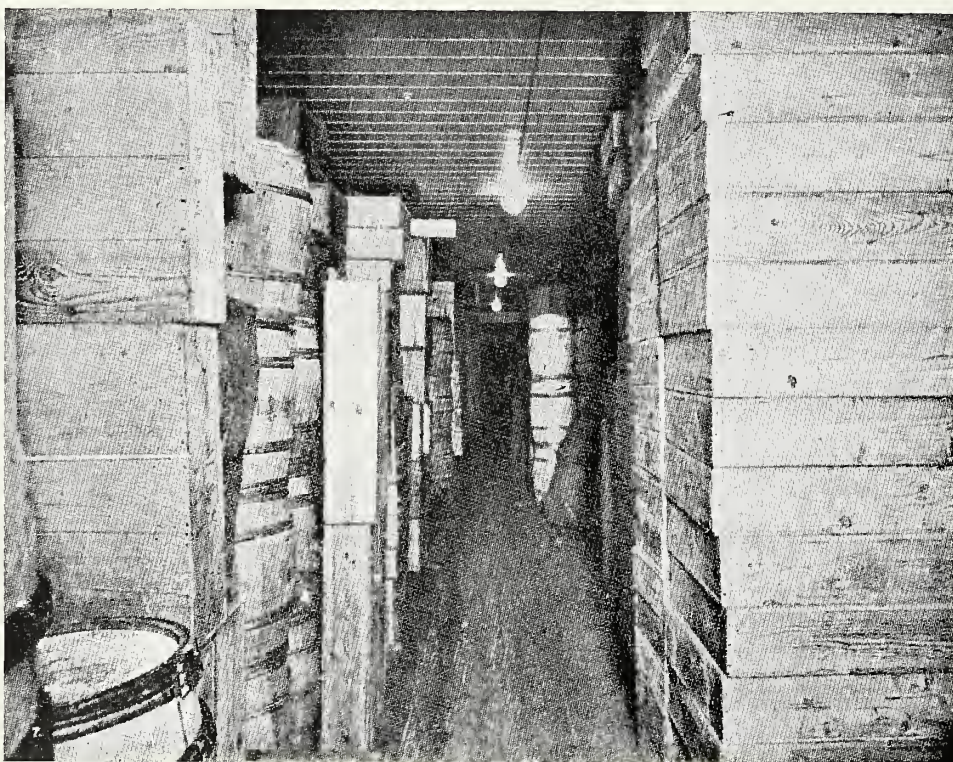
By J. RAYMOND.

ALTHOUGH meat claims, I suppose, the position of prime importance to-day among refrigerated commodities, the humble chicken, if endowed with human powers and cursed with human pride, could sing "Pioneers, O! Pioneers" in regard to its connection with cold storage. For was it not Lord Bacon who taught himself and the world the first principles of the preservation of food by refrigeration, when in the year 1626 he alighted from his coach on the road near Highgate and stuffed the devoted carcase of a chicken with snow and—caught his death of cold?

There was a long lapse, of course, before the refrigerating engineer stepped in, but, as in the case of meat refrigeration, the eighties had not arrived when the first consignment of cold-stored poultry was carried overseas. This was probably a shipment made from Canada to England by a Mr. Lawson Johnston in 1874, or, roughly speaking, about a decade before regular refrigerated meat shipments were found practicable. Since then, it is a curious fact that although refrigeration has, I think, allowed a greater number of sources to be drawn upon for the supply of poultry and game for the world's markets than any other kind of food, it is by no means poultry that has been made the subject of the greatest research in relation to scientific treatment by refrigeration. I make this remark with some reserve, as I am aware that meat comes from all quarters of the globe into the English pantry, but feathered food will nevertheless be found to arrive from a greater number of countries. Meat,

which has, it seems, become the staff of life, has absorbed the greatest effort in the direction of scientific storage and transit, and poultry has, as it were, followed in its wake and benefited from the discoveries and developments made in relation to the former food. The reason for this is, doubtless, largely the size and nature of the goods. Not that I would for a moment say that

the cold storage of poultry is a thing whose science has been neglected, but a large number of those who best know the trade may sometimes wonder how the great industry has been piled up so enormously in spite of sins of omission and commission in the past. It should be borne in mind that until quite recently a large portion of the huge supplies



CASES OF POULTRY IN A COLD STORAGE PLANT.

of poultry and game coming from Eastern Europe and Siberia has received its first stiffening from Nature's own frost. This practice of exposing the boxes of dead poultry to the cold air of the Russian or Siberian countryside has largely died out, as the extreme variations in temperature have presented too many risks for a growing trade, and now almost every poultry exporting centre in the countries named has its freezing station.

It remains a fact that cold storage, and cold storage alone, has made the poultry trade one of the most international industries of to-day. The British dinner-table is, thanks to refrigeration, supplied with chickens from America, Canada, Russia, Hungary, and Australasia, with turkeys from Egypt, Italy, France, Hungary and Australasia, quails from France, Spain, Egypt, and

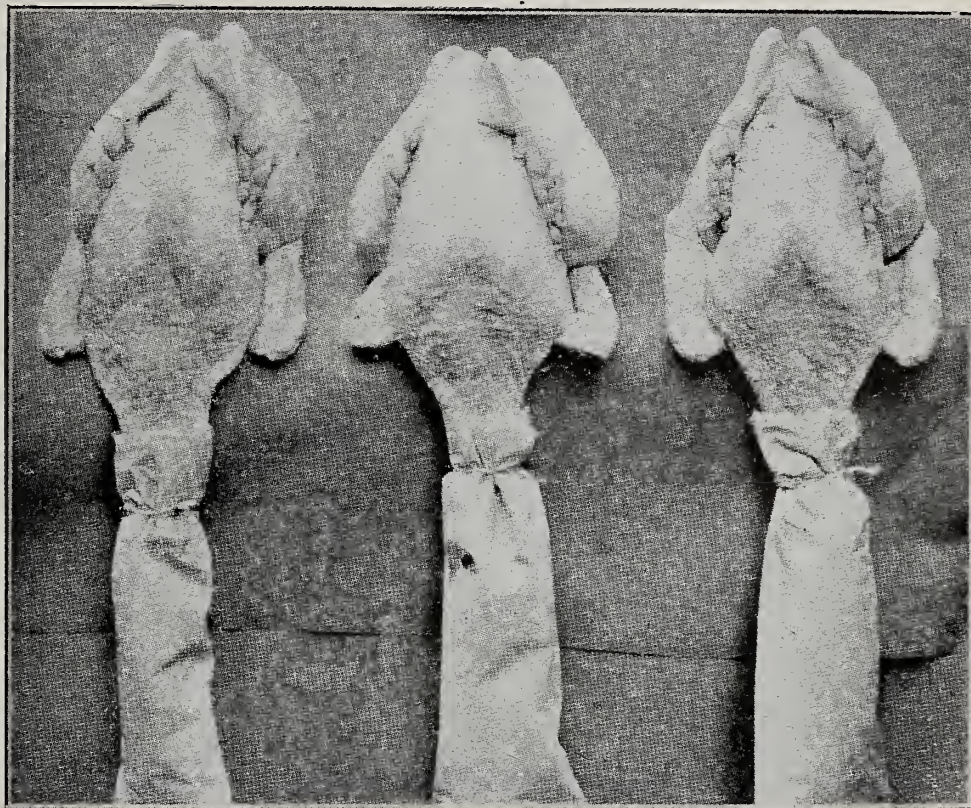
Russia, wild duck from Holland, pheasants from Manchuria, and hazel hens and willow grouse from Germany and Scandinavia. This is by no means a complete list, but it is quite illustrative enough, and the volume of the cold-stored poultry trade may be estimated when it is remembered that of the poultry industry of the United States, which is valued at £20,000,000 annually, over 70 per cent. passes through cold storage.

The very construction, if it might so be called, of a chicken proves to one that it is a much more delicate article to put under chill or frost than a carcase of meat. The small collection of bones, skin, flesh, and fat is open to the force of the cold temperature from within as well as without, and everyone knows that a chicken stands condemned by age or toughness. The ideal method of holding a chicken immune from decay for a comparatively short period by means of cold is to submit it only to a chilling temperature of about 34deg. Fahr. This is a counsel of perfection, however, and the bulk of the poultry which passes through cold storage is hard frozen. The

next most important point, perhaps, is that a chicken's tissues should be submitted to refrigeration gradually. The bird must be cooled down slowly, or it will suffer damage which will be apparent even before it is unfrozen. Quick-freezing applied to a chicken results in discolouration and rotteness round the bones; that is known from experience. The blame for this damage has often been placed at the wrong door, shipping companies being charged with the fault. But it has most often been found that, when damage of this kind occurs, it has been due to careless freezing on the part of the exporter. The question arises as to how low a temperature poultry can stand. This depends upon one or two conditions, but chiefly upon steadiness of temperature. It is said that instructions are given to the engineers regulating the cold storage chambers on the ships bringing poultry from the Antipodes to keep the chambers at 15deg. Fahr. That means that for a safe margin a lower temperature of, say, 12deg. Fahr. would be attained. As Australian and New Zealand poultry arrives in this country in first-rate condition, it must be deduced that poultry can stand 12deg. Fahr. But *Punch's*

marriage maxim, "Don't," must be applied to such low temperatures for poultry as a general rule. For the long storage of chickens it would seem that a general rule of rather higher than 15deg. Fahr. is the best.

There is probably no class of perishable goods that is treated to a greater variety of methods of packing in cold storage than poultry. There is the careful parchment wrapping of separate exhibition birds lying in single-layer crates in straw, that one has seen on various occasions, and there is the other extreme of packing solidly, in a mass, 50 or 60 chickens in a crate and freezing them in a block, as is done with a large portion of the exports of Russian fowls. Suffice it to say that the latter arrive in a very good condition, though, being unprotected by wrapping, when the thawing process is reached they will very soon develop signs of mould, and for this reason become unmarketable. In the subject of mould on cold-stored produce there is material for many articles such as this. Without going into this branch of the question here, however, I



FROZEN FOWLS FROM AUSTRALIA.

would merely mention that it is a matter for congratulation that a movement has at last been made in official food-inspection circles to discover and fix a distinction between those moulds, on cold-stored produce, which are harmful to the consumer and those which are not. There is nobody whom the poultry and rabbit trade has to thank more for helping to bring this matter to

the front than Mr. C. J. Tabor, of Leadenhall Market, a man who combines in himself the rarely wedded qualities of market salesman and scientist. It was only recently, in a paper read before the Cold Storage and Ice Association, on the subject of "Some Scientific Problems in the Preservation of Food by Artificial Refrigeration," that Mr. Tabor, speaking of the great waste occasioned by ignorant condemnation of food on which harmless mould appeared, said that the germs of the white mould which appeared on frozen rabbits, &c., "are ever present in the air, settling and germinating wherever they can find a damp surface on which to grow. Excepting in a few isolated instances, these moulds are non-toxic and non-pathogenic. They are familiar to the housewife as forming the white silky-looking mass often found on jams, hams, cheese, and fruit." Mr. Tabor stated that, in order to prove the harmlessness of this form of mould, he had scratched his arm and rubbed it into his blood, and had also eaten the mould. Drs. Klein and Rideal have also declared as to the harmlessness of this fungoid growth.

by cooking a frozen fowl straight away and another after three days' hanging, subsequent to its leaving cold storage, to prove this point. The former will be tough, wretched eating, the other—what a chicken ought to be. A current of cool, dry air is the best for thawing poultry. Another practice is to put the birds in water of the temperature of the atmosphere. An advantage claimed for this method is that some of the water is absorbed by the slightly dried meat of the birds, and the seller has the gain in weight to his credit. The practice of dipping birds in water before plucking them is to be strongly discountenanced if they are intended for cold storage.

Valuable evidence as to the effect of prolonged cold storage on poultry has been given by Dr. H. W. Wiley, the Chief of the Bureau of Chemistry of the United States Department of Agriculture, who over a period of several years has made extensive experiments in this direction. Similar work has also been undertaken in the United States by a lady scientist, Dr. Mary E. Pennington, the bacteriological chemist in charge of the Food

Research Laboratory at Philadelphia, as reported in our issue of March last (page 314). Dr. Wiley's experiments included the examination of chickens stored for periods as long as four years. The chemist's findings are too many and complex to record here, but, generally speaking, as one reads the report of the investigations, one is impressed by the success of the fowl as what might be called a "long-storer." A bird kept under refrigeration for years loses, of course, a corresponding amount of its flavour, the prolonged application of cold producing a gradual desiccation and an actual changing or deterioration of the flesh tissues themselves. In America there has long been waged a controversy as to whether drawn or undrawn poultry is the better and more healthy for cold storage, and legislative



WELL-PACKED FROZEN POULTRY.

One more word as to thawing cold-stored chickens. This must be done gradually if the chicken is to be a good-conditioned article of commerce and food. One need only experiment

attempts have been repeatedly directed against the refrigeration of undrawn birds. The investigations referred to above, however, have declared strongly in favour of uneviscerated poultry.

ESTABLISHING A STRAIN.

By C. J. DAVIES.

TO become a successful breeder of any class of bird or animal it is necessary to establish a strain. A good deal of misconception seems to exist with regard to what a strain actually is. Advertisers sometimes allude to "their strain," when it is well known that their stud has only been established a year or two, and can certainly not have had time to develop any distinguishing characteristics. Again, a beginner often buys his original stock from several sources, and creates what is actually a mixture of strains, an alloy; and in the nature of things some generations must necessarily pass before the stud can be established on a basis of approximate stability.

We should say, broadly, that no breeder can rise to the dignity of possessing a strain of his own until he has bred three generations. This view is based on the newest conceptions of heredity, from which one learns not only the meaning of "purity," but the fact that it can be established in two or three generations of careful selection. In three generations, even if a breeder starts with uniform stock, he will most probably, either consciously or unconsciously, have effected some change in it, because no two men possess quite the same eye for an animal or carry on selection on precisely similar lines. Therefore, in the case of descendants of a pen of fowls bought from one noted breeder, A, it seems quite justifiable that purchaser B should consider he has established a new strain when he has bred three generations from them; prior to this they belong to the strain of A, and should be described as such. On the other hand, if the original stock has come from several sources, the experimenter should, theoretically, if not actually, have been able, in three generations, to produce order out of chaos and to raise the nucleus of a new strain from the combination affected. Of course a strain, to be a valuable one, should be stable—should breed true to type within very restricted limits.

Undoubtedly the quickest way to establish a strain is to buy a pen of birds from a breeder whose flock is noted for the qualities desired. A good pen, well mated by the seller, may be, probably will be, expensive, but one is paying for the knowledge and experience of their breeder, and the money will be well spent. For instance, five guineas laid out on a cock and two hens one spring resulted a few months later in a cockerel which was sold for this sum after gaining a high award at a leading show, and in an offer of nine

guineas for two others, as well as in the nucleus of a valuable exhibition stud.

One of the great advantages in buying a pen in preference to eggs is that one starts operations with the parent stock under one's eyes, and therefore with a knowledge of their individual peculiarities. Every breeder is severely handicapped at the outset of his career in any new variety. However much experience he may have had with, say, show Minorcas, it is not of the slightest value to him with show Wyandottes, and until he has studied at least two generations of the latter he is bound to be working more or less in the dark. Therefore we say, buy a pen of the best class that can be afforded. The better the birds the quicker will the top be reached. By buying cock and hens from one breeder the purchaser is in the position of starting more or less where the seller left off.

A favourite method is to pick up a good cock here, a good hen there, and mate them together. This plan is often the cheaper because a breeder will sometimes sell a solitary bird at a lower price than he would charge if the individual was included in a pen judiciously mated by himself. The mere fact of his doing so should suggest to the purchaser, however, that the method is not one by which he will secure the most rapid advantage. It is the merest chance if anything good is bred from birds of different strains mated together. As a rule this system of breeding leads to retrogression in the first generation in those minute qualities which, in the aggregate, distinguish show specimens from their less exalted brethren. On the other hand, robust birds are bred, and if the fancier only has patience enough to wait another year for a return, he will no doubt in the end secure high-class stock by this method of purchase.

We will now give a few illustrations to show the various methods of breeding which must be adopted in different circumstances in order to establish a strain.

First of all, whatever the origin of the stock, it is of the greatest importance that the individual origin of each chicken be beyond doubt. Only too often a novice mates up a cock and several hens and sets all the eggs, regardless of their maternal origin. If all the hens were much alike and were known to be *full sisters* there might not be very much harm in this. But as the hens are probably at the best the progeny of different mothers, and as the hereditary value of two full sisters is never quite the same, and of two half-

sisters even less alike, it is as important to know which chickens come from which hen as it is to know the dam in the case of our larger sorts of animals.

In a pen of three or four hens a little observation at first may be all that is necessary to enable a future recognition of the egg of each hen. If the capital account runs to it, trap-nests can be used. Or separate nesting-places, set well apart about the premises to entice each hen to select and keep to one in which her eggs may be allowed to accumulate, may also be of assistance.

If hens are used for hatching, then each bird can be set on the eggs of one hen only so that the brood hatched will be full brothers and sisters and can be identified as such all their lives. In an incubator it may be necessary to allow a few days to elapse between the setting of the eggs of each hen, unless a very perfect method of dividing the different lots is devised and each brood is marked with a similar punch mark immediately the birds are hatched.

The main point is that means must be taken to ensure absolute and unmistakable evidence of the precise pedigree of each bird hatched, and when this is accomplished the first and most important step in the establishment of a successful strain has been taken.

As the birds (which we will call Generation 1) develop, the advantage of owning their parents becomes apparent. Ocular comparison will show the breeder which ones resemble which parent in certain points, and to know this is to gain an invaluable piece of information with regard to which characters are directly transmitted by the parents to the progeny. Also, if the mother or father possess any very desirable features which are not inherited by the progeny, it will be obvious that steps will have to be taken to cause these desirable features to reappear in a subsequent generation.

Assuming the breeder has started with a pen of birds of one strain, his best method of securing an advance in Generation 2 is to mate the pullets of Generation 1 with their father or a cockerel with their mother. *Which* course is pursued depends a good deal upon the quality of the original birds bought. If the cock was a really high-class one (and as in this case he can be used two or more seasons it is worth while spending a bit extra on him), then the best of his female progeny may with advantage be mated with him, care being taken to note their maternal origin. If, on the other hand, the best bird bought was a hen, then mate her with her best son, and be particular to separate her eggs from those of any other birds which may help to make up the pen, hatching as many of them as possible. A pen can, of course, be made up with the best of the

other old hens and the choicest pullets on chance of getting one or two good birds worth keeping; but dependence must mainly be placed on the progeny of the one best hen mated with her son.

Generation 3, produced on these lines, is certain to show great advance in the qualities bred for, and henceforth success is only a matter of careful observation and selection. If the best birds of each generation are mated together more or less regardless of relationship, a strain will be established which will reproduce the qualities desired in a large proportion of the progeny.

Now, supposing the breeder has started by purchasing very high-class birds, but all of different strains. Generation 2 (their progeny) will probably be very mixed; maybe, inferior to their parents. It is more important than ever in this case that the progeny of each hen be identifiable, because, if perchance the amalgam has happened to "nick," it is essential to know exactly which hen it is that is breeding the good stock. In such a case further mating should be followed on the lines already recommended, and the progeny of the cock and this hen treated as if the parents were known to come of the same strain.

If, as is more likely, Generation 2 is very mediocre, and nothing is bred of outstanding merit, then the method to adopt is to pick out the best of the birds and make up pens of brothers and sisters. They may run to one, two, or more pens, but, whatever number it is wished to deal with, the method of mating full brothers and sisters (birds from the same hen) must be adhered to as the mainstay of the operations. The reason for this procedure is that by this system a reproduction of the type of the original high-class parents is induced in Generation 3.

In Generation 3 one may, perhaps, get a variety of types and a sprinkling of high-class specimens, and the correct method to adopt with the latter is to sort them out according to type and mate them with the original parents (their grandparents) of the same type. Thus, the old cock mated with the best of his grand-daughters—birds which resemble him or his strain in general features—will lead to the production of a number of high-class birds of a more or less fixed type; the mating of a cockerel with the old hen or hens of the strain he resembles should produce birds which breed true within reasonable limits. In other words, the breeder will now have succeeded in sorting out the strains which he started by mixing, and nothing further will be required than a rigid adherence to type and a careful selection. As it is seldom convenient to have a mixture of types in the same yard, a reduction to one can be made as soon as experience shows which one is the most stable and produces the greatest proportion of high-class stock. Further crossing must be rigidly avoided.

ORGANISATION IN THE SALE OF EGGS AND POULTRY.

A PRODUCER'S QUESTION.

By EDWARD BROWN, F.L.S.

INTENSIFICATION and concentration are responsible for many changes, some of which are good; in others the benefit is not apparent. But the fact that changes result is there and must be faced, with all that is involved. Over great areas of the country the days when producer and consumer met in the local markets—the one to sell, the other to buy food for family needs—are far behind us. Under those conditions no organisation was needed. It was a question of natural volition. When the farmer's wife had no eggs or chickens for sale, or when scarcity made prices high, the householder simply did without. There was very little extraneous sale. To a large extent the produce of each district was consumed there, unless it was specially favoured by means of intercommunication. In some places this state of things continues. But another factor has been introduced. When local supplies are plentiful buyers send to the towns and manufacturing districts. When they fail foreign eggs are brought in to fill the gap. Many readers would be astounded, as I was in the first place, on learning the extent to which our village and rural population are dependent upon foreign eggs, especially during the winter months. Scores of millions of eggs go into country districts, which ought not only to produce all they need but to leave a large surplus for sending elsewhere.

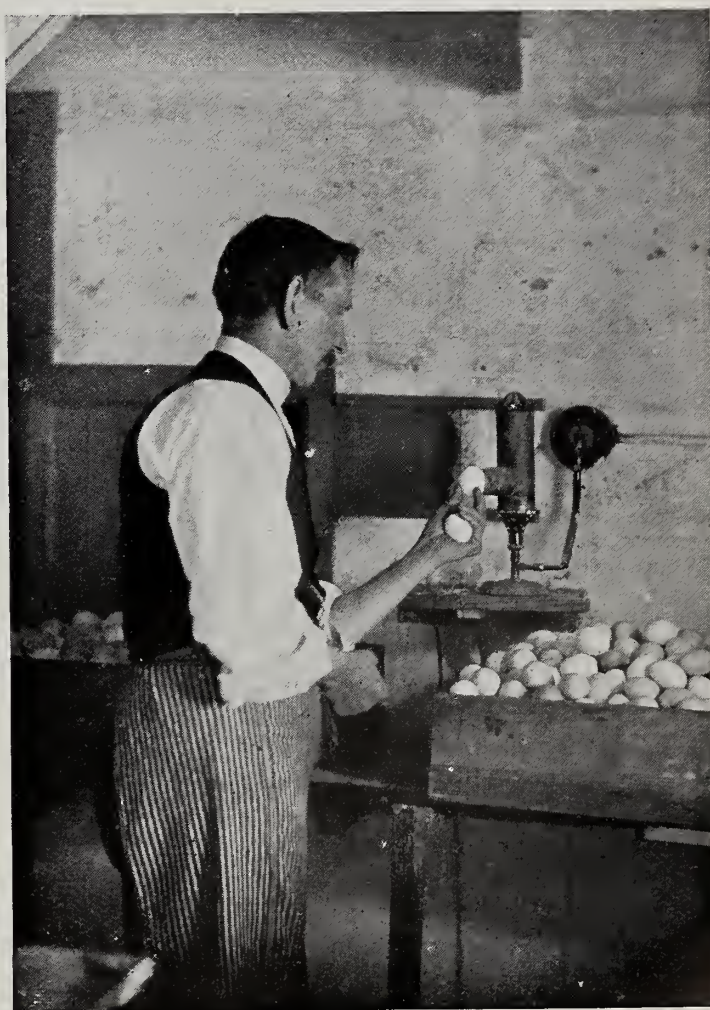
Feeding the Towns.

Without organisation—by which is meant forethought anticipation of needs, guidance of the required supplies from producer to consumer when and where they are wanted—it would be impossible for the denizens of our great centres of population to be fed. When we remember the vast congeries of human beings in the manufacturing, the commercial, the residential districts, with all their varied and expanding wants, accompanied by ability to buy, but with practically no means of producing their own food, dependent wholly upon others for the necessities of life, it will be realised to some extent how vast the problem, how perfect the organisation must be, how wide-reaching the sweep for gathering the people's food. Failure would mean starvation, rack, and ruin. And there is another factor which is sometimes forgotten—namely, that with the growth of these areas the land available for food production is by so much curtailed. In all our cities and towns may be found sections once used as cornfields, or pasturage, or market gardens, which are now covered with houses and factories. Thus production is driven backward, contact directly between producer and consumer becomes more difficult by reason of distance and expense, and organisation of one form or another is imperative.

The County Palatine.

London is often held up as the great example of intensified humanity, and so it is. But I propose to

deal with one of our most thickly populated counties where, apart from the metropolis, developments on the lines already indicated are seen in their most pronounced form—namely, Lancashire. There are gathered an army of workers in one of the busiest industrial hives in the world, whose products go to the ends of the earth—an eager, good living people. Yet Lancashire is by no means given up to commerce and manufacturing and shipping. It is also a great agricultural county, more especially in the northern and eastern sections. I find in the Agricultural Returns that in the County Palatine



TESTING EGGS FOR FRESHNESS. [Copyright.]

in 1908 there were 805,118 acres of land under cultivation, a greater expanse than in twenty-six English counties, and only exceeded in sixteen counties. Thus Lancashire has exceptional opportunities for feeding itself and of finding local markets for its food products.

At the last Census the population of Lancashire was 4,437,518. The average consumption of eggs in Great Britain in 1908 was 114 per head of the population. On that basis the consumption of this county would be

493,877,000 eggs, or 30,867 tons. If the average production per hen were 100 per annum, which is probably higher than is actually the case, to supply such a quantity would require 4,938,770 hens, to say nothing of the male birds, which is equal to 6.13 hens per cultivated acre of land in the county. When the last poultry census was made in 1885 there were 561,732 poultry in Lancashire, or 693 per 1,000 acres of cultivated land, which was less than three quarters of a bird per acre. Although there has been some increase in the meantime, I do not think that more than one-sixth of the poultry and eggs consumed are produced in the county, and probably not more than one-eighth.

Taking the estimated value of poultry products consumed in Great Britain as £20,289,377 (vide page 276 of the ILLUSTRATED POULTRY RECORD, February, 1909), this works out at nearly 11s. per head of the total population. The following are the Lancastrian proportions :

Total value of Eggs and Poultry consumed in Lancashire	£2,440,634
Total value of Eggs and Poultry produced in Lancashire	406,772
Total value of Eggs and Poultry paid to producers outside the county	£2,033,862

What is true there is equally so elsewhere. *Verb. sap.*, The people must be fed.

Trade Organisation.

To meet the vast and ever-increasing demand represented by the above figures, producers are at work at home and abroad. But they alone would not suffice. Equally important are the methods by which supplies can be brought within reach of consumers. Eggs in Ireland or Italy, chickens in Russia or Cumberland are useless to the Lancashire operative so long as they remain there. He wants them on the spot, in the local store or shop, whence he can bring them to his own table. And he wants them at once. Next week or month will not suffice. To meet such a condition of things, forethought is essential, an anticipation of his needs. To accomplish a result so desirable a vast and complicated machinery has been set up, with ramifications over a score countries, working with clock-like precision. I have visited great establishments in several parts of the Continent, have met the merchants, many of them Englishmen, who have organised this trade, have admired the skill and enter-

prise with which the business is conducted, feeling that the fortunes they have made are well deserved, well earned, and that they have at the same time rendered a service which is not often recognised. I, for one, have never begrudged them the reward of their labour and acumen. They have helped to create a desire for poultry products which we are going to avail ourselves of to the full by supplying native eggs and poultry of the best qualities. These Napoleons of



BRANDING AND PACKING EGGS.

[Copyright.]

the poultry and egg trade have been among our best friends.

If we go into any of the great trading houses during the busy season we shall see astonishing sights. As regards eggs we have to think in millions, of chickens we must dream in thousands. The average daily consumption of eggs in Lancashire alone is 1,350,348, nearly

84½ tons. Every minute of the twenty-four hours 9,380 eggs are used in one way or another. Of these comparatively few are laid between Morecambe Bay and the Mersey. Such as are British are drawn from a radius lying between Devonshire and Sutherlandshire, between Norfolk and Carnarvon. But even these are few. Ireland and Denmark, France and Russia, Hungary and Egypt are all laid under contribution. The organisation is great and wonderful, a triumphant conquest of mind over matter. I can do no more now than pay this tribute, for the details hardly concern us.

Distribution.

Lancashire was the birthplace of distributive co-operation, and the Rochdale men who started that system have rendered greater service than they knew. That industrial co-operative societies have been of the greatest benefit everyone will admit. They have promoted thrift in its best sense, have done much to enhance the comforts and position of the working section of the community, have encouraged education and self-reliance. But I take it that their chief value has been seen in breaking down the old lethargy of traders, by killing those baby trusts in the shape of local rings, by bringing into play a new form of competition, which was powerful because the interests of the seller and buyer were combined, and by the bulking of purchasers, enabling them to command the best terms.

Where the Weakness Lies.

So far as home produce is concerned, the weak link in the chain is not in distribution, but at the other end. Where retailer and consumer come into contact expedition is organised to a nicety. By economical and rapid handling, by meeting the requirements of customers, the trading section of the community have, to their credit and profit, be it said, created a system with which little fault can be found. In some cases, more especially London, where market charters are a serious hindrance to free competition, the system plays into the hands of wholesalers, but as a rule neither they nor their customers have any reason to complain. It is the producers who suffer. That this state of things can be remedied is abundantly proved by Danish and Irish experience. They must organise in order to defend their own interests. There are, however, many sections of the country where such efforts are unnecessary, simply because local demand is far greater than the supply and the consumers are within easy reach, so that if any attempt is made to tax producers unduly they can find other outlets. This applies to those districts which are either industrial or residential, and where households can be supplied either direct or through the retailer. Such is the case within the London radius of influence, near the many holiday resorts of the South Coast, in the great manufacturing and commercial centres of the Midlands, the North of England, Southern Scotland, and South Wales. There prices are uniformly good and outlets abundant.

Under other conditions we find a difference with a vengeance, though there has been some improvement of late years, due to pressure both from behind and before. The rural mind is awakening to the need of organisation. Threats of competition, of combination, have made a stir among the dry bones, as represented by a fossilised and antiquated system of trading. But there is much yet to be done. Where producers are isolated, divided either by their own prejudices, their inherent conservatism or fears, there the results are disastrous in the extreme. It is not too much to say that millions of pounds annually are lost to our rural population in this way. In fact, in many districts there is no incentive to improved methods or enhanced production because the returns are far below what they should be. As a consequence the eggs and poultry are often inferior to foreign when they reach the markets. The advantages of nearness to markets—that is, comparative nearness—is entirely lost. Such may not be true in sections of Scotland and Wales, but there is no district of England more than six hours from a large and lucrative demand. But they might be six days away for any benefit that is obtained.

Tyranny of Local Traders.

Isolation means weakness. Many farmers and others appear to be unable or unwilling to break the bonds which fetter them, though they could do so quite easily if they but made an effort, and were willing to trust, to combine with their neighbours. In some instances they take what is given them. It is not a question of bargain, for they have no voice in fixing prices. I met with an extreme case some time ago in Devonshire, where until the end of the market the vendors did not know what price they were to receive, although they had delivered up their goods. The buyers met together, fixed the rate, and paid accordingly. What wonder, therefore, that the price was uniformly low. Yet when an effort was made to introduce a better system, which involved some measure of personal effort and responsibility, those most concerned refused to do anything, afraid to break the chains which bound them fast. At another place the local traders threatened that if producers attempted to combine for sale of eggs they would not buy the butter, and that was sufficient to overcome the threatened combination. These may be extreme cases, though not alone by any means, but they are fairly representative of what is to be found in numerous districts. Local buyers form rings and dictate terms to the hapless sellers. In some cases even retailers are subject to the tyranny of these little monarchs, who grind their victims between the upper and nether millstones of a bad system and financial fear. Nor is that all. For we find carelessness on the part of the producer and trader alike. The former gets as much for poor quality as for good; the latter is so certain as to his power that he does not care as long as his profit is secure. Quality is lowered and home produce brought into contempt.

A Producer's Question.

This is not a consumer's question. Nor is it supremely one for retailers in the great cities, for they can always get foreign supplies, though the increased and increasing demand for home produce is giving them concern. It is one for the producer first and last. He has in all cases to pay the piper, but cannot call the tune. Reduced returns are his lot. He has to take what is left. The consumer will only pay for goods received. Why should he be expected to pay more for inferior English eggs because they are English than for better French or Danish I cannot for the life of me see. If the English were better, as they ought to be, then there would be no difficulty whatever. The retailer, wise man, intends to

they must control the marketing of their produce. To this end combination is the true remedy. The co-operative egg and poultry societies already established have afforded abundant proof that in this way not only can home supplies receive their proper position on our markets, providing consumers with goods of the best quality, but that producers obtain greatly enhanced returns. The need for some better system and the benefits thereof are apparent. The old *laissez faire* idea is useless in these days. Competition is too keen, foreigners are alive to the possibilities of the trade, and our people must awaken to action. Organisation is a necessity. Here are the factors which demand attention.



EGG BOXES READY FOR DISPATCH.

[Copyright.]

have his profit no matter where the place of origin. He is not in business "for his health," as the Americans say, but for profit, to live and make money. When he can secure reliable and regular home supplies the preference is there, and he is eager to meet the demands of customers.

The Remedy.

Organisation by producers themselves is therefore the remedy in those districts where local demand is not equal to the supply, in order to secure adoption of methods conforming to present-day requirements, and that producers shall obtain the full benefit of their labours

Eggs and chickens must be transmitted rapidly from producer to retailer. Weekly markets are useless, for eggs especially. Daily or tri-weekly collection should be the rule, with immediate dispatch. A few hours' difference makes all the difference in value. Co-operative depots alone can secure this.

Quality must be guaranteed. A local trader recently told me that not more than 45 per cent. of the eggs purchased by him could be sent out as new-laid. To secure quality, strict and stringent testing and grading is a necessity. The producer or his immediate representative must grade. Then confidence will be regained. It is a fact that in some districts foreign supplies

command better prices than local, and they are better, because they are tested and sold for what they really are.

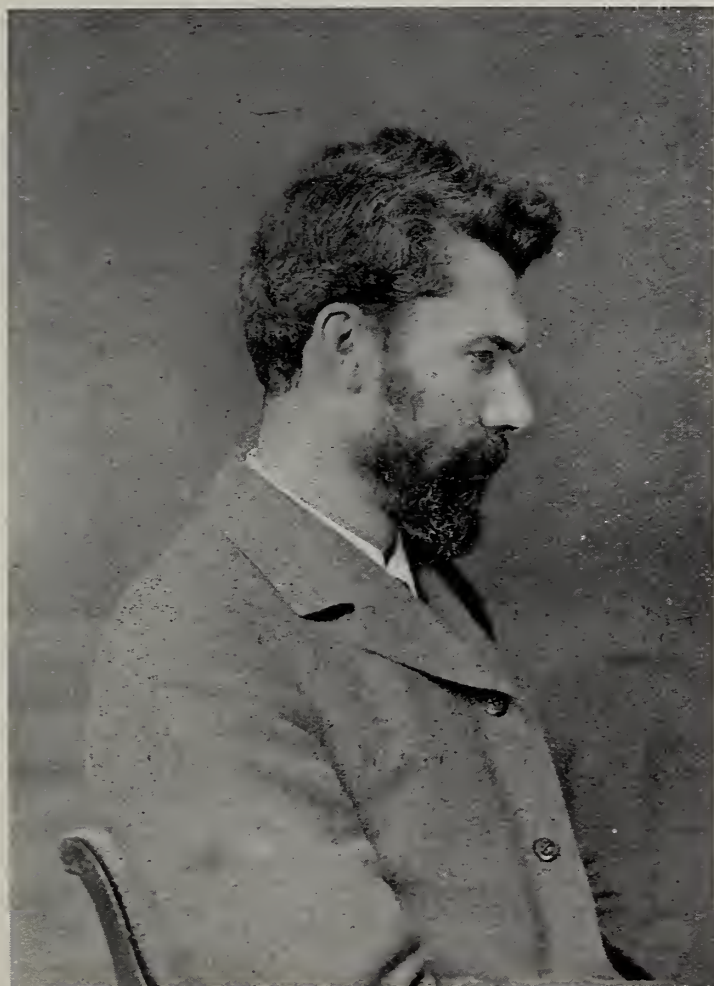
Bulking the produce means meeting the requirements of retailers, who complain that home produce, especially eggs, comes in dribbles and without regularity. A depot combining the total supplies in any district can meet trade requirements, and is not dependent on one customer. Moreover, such a combination can command lower transit rates, and the greater the co-operation the more can be done in this way. Better prices can be secured by producers because of the improved quality and condition, and the benefit is theirs. Advances in returns of 30 to 40 per cent. have resulted from the opening of co-operative depots associated with the National Poultry Organisation Society. But in addition this new competitive element has compelled traders to improve their methods, and the whole standard has been raised. Further, the enhancement of prices has

stimulated production, and the poultry-keeper has reaped the harvest.

Therefore—Organise.

Did space permit I could give many instances of the benefits of organisation, but it is scarcely necessary to do so. The facts are self-evident. At the present time the solution of this marketing problem, which is a great one, seems to be by combinations of producers on co-operative lines, where the conditions are favourable. It would be folly in many areas to do this, for demand is at hand, and prices are satisfactory. But elsewhere that is the method to be recommended. The economic salvation of our people will not be secured by Governments, though they may help in the primary stages, will not be by landowners, will not be by traders, but by producers themselves. The former all contribute to the end in view, but the essential element is the man and woman whose business it is first and foremost. If these rise to their opportunities, then the task will be accomplished; if not—Ichabod!

WHO'S WHO IN THE POULTRY WORLD.



Mr. J. W. ROBERTSON SCOTT.

MR. J. W. ROBERTSON SCOTT.

MR. J. W. ROBERTSON SCOTT, whose *nom de guerre*, "Home Counties," is familiar to readers of this and other journals, is one of the few writers on country subjects who have had a first-class journalistic training. He was brought up to London by Mr. W. T. Stead in the days when the latter was editor of the *Pall Mall Gazette*. Subsequently he wrote a daily causerie on foreign and colonial affairs for the *Westminster Gazette*, and was on the staff of the *Daily Chronicle*. During the Boer War (when he resigned the *Chronicle* appointment) he wrote a political pamphlet and a book on China, and went to live in Essex. From that time he has specialised in rural topics, and has contributed articles on these to all sorts of papers, including the *Times*, the *Field*, the *Spectator*, and the *Quarterly Review*. For six years he has appeared every month in the *World's Work*, and for eight every week in the *County Gentleman*.

He is the author of "Poultry-Farming: Some Facts and Some Conclusions," which, apart from its other qualities, is the only poultry-book in existence which starts off with a Biblical text and winds up with a quotation from Lewis Carroll! "The Townsman's Farm," "The Case for the Goat," "Country Cottages," "The Small Farm," and "In Search of a £150 Cottage" are among his other publications. The last-named, it is interesting to note, was largely responsible for the holding of the first "Cheap Cottage" Exhibition at Letchworth. He is, of course, a poultry-keeper, and is on the Advisory Board of the Utility Poultry Club, which owes not a few members to his advocacy.

He is a Scotsman by blood and a Cumberland man by birth ; stands over six feet high ; is married ; is a teetotaler, a vegetarian, and a Fabian ; and has a sense of humour.

REV. T. W. STURGES.

THE recent extension of Mr. Sturges's poultry-farm at Northwich, Cheshire, makes the present time opportune for including him in our gallery of poultry notabilities. Mr. Sturges has been a breeder for nearly twenty years. He has kept practically every variety except Modern and Old English Game fowl ; and for the past ten years has hatched over 3,000 chickens



Rev. T. W. STURGES.

annually, whilst his yearly sales of adult stock birds, which are exported to all parts of the world, exceed a thousand.

Formerly a keen and successful exhibitor, he is now chiefly employed in judging the exhibits of others, and in this capacity he is a well-known figure at the prominent shows throughout the country. He is the specialist club judge to the Buff Orpington Club, the Leghorn Club, and the Black Leghorn Club ; vice-president of the Poultry Club ; and president of the Leghorn, Minorca, Black Leghorn, and Buff Orpington Clubs. One or two books on poultry have already come from his pen ; and an important work of his—"The Poultry Manual"—is due to be published this month.

SEÑOR DON SALVADOR CASTELLO Y CARRERAS.

A RECENT number of *La Avicultura Práctica* was devoted to descriptions and illustrations of a visit paid by H.M. the King of Spain to the Spanish Poultry School, "Real Granja Escuela Parasio," at Arenys de Mar, near Barcelona. This Royal visit has been followed by the announcement that King Alfonso has conferred upon Don Salvador Castello y Carreras, Founder and Director of the School, the Knight Grand Cross of the Order of Agricultural Merit, upon which we cordially congratulate our confrère, who has well deserved this recognition of his services in promotion of the poultry industry in Spain.

Señor Don Castello formed the Spanish School of Aviculture in 1896, and has continued as Director since that time. He is editor of *La Avicultura Práctica*, the official organ of "la Sociedad Nacional de Avicultores," or National Poultry Society of Spain, is author of "Avicultura," the standard Spanish book of poultry, and was promoter and Commissioner of the great International Poultry Exhibition of Madrid in 1902. Three years ago he was commissioned by the Spanish Government to visit America for the purpose of studying methods of poultry-keeping in that country.



SEÑOR DON SALVADOR CASTELLO Y CARRERAS.



Limit Shows.

In last month's notes I touched somewhat briefly on the question of short entries at many shows which are held during the earlier part of the exhibition season. And I suggested that limit events would be likely in a large measure to bring about a better result. The fact that some of the professional exhibitors are as certain to enter a big team of their best birds at a small fixture as they are to patronise with two or three entries one of the first-class shows is so well known nowadays that many a small fancier prefers to keep his specimens at home when competition is open to all-comers. In my opinion the small man needs some kind of protection to encourage him to go ahead. It cannot be gainsaid that he is the very backbone of the Fancy, so it behoves those who have the poultry Fancy at heart to study him just a little. It is a mistake for the big man to try monopoly; it will, sooner than anything else, bring about the downfall of the whole Fancy. There must be the two classes. Professionalism has advanced too far to be entirely abolished. But the classes must be graded; and the best way to grade them, and the fairest, too, is by limit shows.

Their Popularity.

Limit shows are not unknown. They have been tried in certain parts of the country as a means of keeping the professional exhibitor within reasonable bounds. Some have been and probably will be successful in that direction; others, mostly those which have been run on the wrong lines, have not wholly satisfied the requirements. It is generally thought that limit shows are unpopular. Be that as it may, they are on the increase. From an analysis of the poultry shows of the British Isles, which I have kept for several years, I can state positively that during recent times they have come more into favour again. And they form a by no means small percentage of the annual total. In 1907, when the year's shows numbered 773, there were 119 limit events, seventy-five of which were radius exhibitions and the remainder price limits. My figures for 1908 prove that

the percentage is rather better, nearer twenty than otherwise. These figures of necessity fluctuate. New shows are for ever cropping up; old events die out; and some committees are apt to change their rules governing competition. Nevertheless, it is evident that limit shows are not so unpopular as many people imagine.

A Maximum Price.

There are different kinds of limit shows in connection with poultry, but there are two only which I will mention as likely to be serviceable. The first is that with a price-limit, an event at which the specimens entered are supposed not to exceed a stated figure—£10, £5, or whatever it may be. It cannot be said, however, that such exhibitions as these are altogether a means whereby to check the teamster type of professional. A £10 limit is high enough to tempt most of them, especially if the entry-fee is low and there are two or three good specials to be won. The weak spot of such events is that in most cases the birds are not sold at the limit price. There is a loophole in the rules in that if there is more than one claimant for any bird it is put up to auction. And, although it may be against rules or the owner to bid for his own specimen, nothing is to prevent him getting a friend to do so, and he generally manages to buy the bird in. It has been said that there is an objection to the price-limit show in the case of a low figure, £5 and under, being fixed—it encourages the exhibiting of other than first-class stock. Doubtless it does; but, since all show birds cannot be fit to win at the biggest events, what harm is done?

A Confined Radius.

The second kind of limit show is the radius one—that at which competition is limited to fanciers residing within a given area, maybe a few miles. Certainly it might be useless in districts in which professionals live; but, in such circumstances, what is to prevent the big men refraining from exhibiting at those events? It has been done; and the exhibitor who so graciously stands aside to let the smaller fancier have a chance not only gets a free advertisement thereby (the fact

is generally well announced in the schedules) but benefits in other directions. However, in districts free of professionals the radius shows are unquestionably the best, especially when run by a fanciers' society. They often contain entries from poultry-keepers who have never previously given a thought to exhibiting poultry; and in this direction they generally result in the owner seeing that there is more than "eggs and an odd chicken for the table" to be made by keeping a few fowls. They encourage friendly rivalry in a neighbourhood and lead to the keeping of "good poultry and more of it." They, moreover, attract a good "gate" if the preliminary details have been properly arranged—and gate-money is a big item in the accounts of most shows.

The Remedy.

In my opinion the best way to prevent the teamster swamping the smaller shows is to confine competition at a certain number to a given radius. There are almost 800 poultry shows held annually in the British Isles, and of them there are about 34 per cent. offering first prizes of more than ten shillings; in 1907 the number of such events was 225. Let this latter class, then, be open to all-comers and the others confined to a radius. In the case of several shows being held in one county, as in Durham, Yorkshire, Lancashire, and so forth, one could be open to all fanciers residing in the county borders or even entirely open, and the remainder confined to different districts. Or, if needs must, let half of them be eliminated, and instead of many with entries averaging four or five a class have few with thoroughly representative competition. If it is a question of a large classification the percentage is considerably fined down; in 1907 there were twenty-three shows with over eighty classes. But these are the very pick of the exhibitions, and if they were spread over the country as open shows their number would be sufficient. The most ambitious of the local fanciers could always try their birds at the county shows. And there would be the twenty-three biggest events (the number would doubtless be increased under my suggested system) at which they could again compete. It would limit the teamster to his county shows and the great open fixtures, but it would doubtless advance the Fancy. The radius shows will do more real good in encouraging the keeping of pure breeds in a district than will an array of a few champions from outsiders, taking all the chief prizes and specials. Such a thing as this latter has ruined more than one promising society and discouraged many a keen man.

FANCY AND UTILITY.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—By your permission I should like to reply to Mr. Broomhead's article, re "Fancy and Utility," which appeared in the May issue. Unfortunately, I disposed of the April number of the RECORD before I had read it, so I have not seen the article to which he replies. To me this question of blending the misfits of the show-

pen with utility laying bred birds is the rock which has tripped up many a would-be aspirant to poultry-farming. I cannot find anything new in Mr. Broomhead's reply; of course one cannot expect anything but old answers to old charges. How many breeds the fancier has destroyed or made does not in any way effect the case. What he has done up to now in this mixing and making of new breeds is no evidence why a man who desires to make a living out of laying hens should go to a breeder who specialises in breeding for the show-pen.

Mr. Broomhead mentions that it is said a cleavage exists between the fancier and the utility poultry-keeper. I can assure Mr. Broomhead that this cleavage does exist, and cannot be classified as remarkably small.

The quickest way to excel and rise to the top in any branch is to purchase birds or eggs from the men who are at the top, or thereabouts, in the particular branch which one wishes to take up, whether it be for egg-production, show-pen specimens, or table poultry. There are many who specialise in these various branches of the poultry business, and certain people can combine these branches if they keep two strains of birds of the same breed (but not otherwise) and can excel in both.

If a person sets himself to breed to show standard he is bound of necessity to place the laying qualities of his stock a long way from first consideration. There are all the outside characters, or ornamental and useless (yet necessary) appendages for the show-pen, to be abnormally developed on the largest fowl he can possibly grow. For it must be borne in mind, if all other points are equal, that the biggest bird will win. Or put it another way: let any one character be better than that of the other competitors, and, all the other numerous points being equal, if the bird excels in size in one particular ornament it is bound to win. And these all come before the laying qualities of the bird; in fact, if the exhibit be exceptionally well developed in the egg department it will probably lose the prize on that account, as this part of the bird being prominent is contrary to standard points in some birds.

This assertion was made by a fancier who has made a living for a year or two by exhibiting, and I believe he is a club judge; and it was made some three months ago while he was showing a friend and me around his poultry-yard, and pointing out the various traits that were necessary to win. I may say that we asked various questions on certain birds, but on one in particular, as we both thought it a splendid specimen; and the remark was that it was not according to type, being too large behind. This fancier has risen to the top in about six years, and he and his family have been dependent upon his poultry for two or three years. His advice to a beginner is to buy birds which have won in a strong competition before they leave the pen. What exhibitor would purchase a breeding-pen from a utility-breeder who went in for egg-production on the bald statement that his stock was up to show standard?

Perhaps I am wandering from the subject, and these instances may prove nothing. If we get back to fact, it is that in the show-pen the big good one will always

beat a little good one. Now, this is the real beginning of the cleavage, for the show-pen of to-day compels its supporters, so far as utility birds are concerned, to become extremists; hence a gulf must be made between the man who goes in for egg-production and he who goes in for show.

Immediately one sets oneself to procure a high percentage of eggs, using trap-nests and other methods, I think it will be found that there is a diminishing of size in the birds, which is quite contrary to what would take place if the poultry were kept moderate layers; in other words, a prolific laying hen will never attain the size that a lazy hen will. If these two types of birds be kept together, fed, housed, &c., on the same lines, it will be found that, while one returns the food converted into eggs, the other will have turned it into flesh, &c. The very fact of the one having returned so much in eggs has reduced its chance of increasing its size. The internal physical activities are absolutely working in opposite directions; thus I prove that size is obtained at the expense of eggs, and that prolific layers cannot be obtained if the increased size is to be had. The different natural physical traits of the bird compel the utility poultry-keeper to select the one that will return the food in eggs, while the fancier must take the other that will increase in size by converting its food into bone, muscle, flesh, &c.

I am not surprised at Mr. Broomhead stating that the choicest fatted fowls which have ever graced a show bench or a salesman's slab have been the progeny of noted exhibition strains, bred from the same birds which have produced well-known winners. This is where the misfits of the show-pen can claim to be utility birds, and it fully bears out my line of argument.—Yours, &c.,

JOS. FOULDS.

SHORT ENTRIES AT SHOWS.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—I was extremely interested in Mr. Broomhead's instructive article in this month's ILLUSTRATED POULTRY RECORD upon short entries at shows. As an amateur who does a little showing, I venture to address a few remarks to you upon this topic. I may say that I am in the poultry Fancy solely for my health's sake (moral Health); but I find it somewhat expensive, so much so that I have had serious thoughts of turning to some other moral occupation—such as Sunday-school teaching—which will be less of a drain upon my purse.

I find, when showing, that if I am successful enough to obtain a second prize it nicely clears my expenses, but any lower position is a certain dead loss. At the same time, it would not content me to compete at only very small local shows, because it is far more educational and interesting to compare one's own "Swans" with those of the highest merit belonging to the leading exhibitors of that particular breed. That I am singular in this respect is highly improbable; there must be

many individuals similarly circumstanced. Under the present conditions, when I have screwed my courage up to sending 2s. 6d. or 3s. entry-fee and paid some 2s. or 3s. in railway carriage, what usually happens is that some professional exhibitor takes all the prizes and I have nothing, or, at the best, a white card. I firmly believe that if the two conditions mentioned below were in the show schedules I should compete more frequently. The conditions are:

- (a) The entry-fee to be 1s. 6d. or 2s. instead of the present figure, the prize-money to remain the same.
- (b) Exhibitors are allowed to send only one entry in each class.

The conditions must stand together; one without the other would be practically of no use, but together they would, in my humble judgment, increase the entries some 100 per cent.

In addition, if we could have the railway rates lower it would be a great advantage; but that is another matter entirely.—Yours, &c.,

July 6, 1909.

BLACK COCKEREL.

MEN AND MATTERS.

By W. W. BROOMHEAD.

A FAMOUS DUCK BREEDER.

IN water-fowl circles, and more particularly, perhaps, in those confined to modern Aylesbury and Rouen ducks, few fanciers have been more successful exhibitors during the past few years than has the Countess of Home. Wherever the classification has been at all representative there has generally been a good team of ducks from this famous Border establishment, and it is rarely indeed that her ladyship's name has not figured among those gaining the most important prizes. It is out of the question to give a list of the numerous special prizes which this stud of water-fowl has secured at the important fixtures; but it is worthy of note that in five years ducks which have won almost a dozen challenge cups have been bred on the premises. Perhaps the best year was when such high honours as the Lord Mayor's Cup at the Dairy Show for the best water-fowl, the Aylesbury Duck Challenge Cup (won outright), the International Show Challenge Trophy, and all the leading prizes at the Birkenhead and the Highland exhibitions fell to the Coldstream birds; but three first prizes, one second, and two thirds were won by the Countess of Home at the late "Royal" Show at Gloucester with a team of six. It is sufficient to prove that the stud does not rely on past reputations, but that it can at the present day well hold its own. The hatching season, which has now closed for the year, has been a good one on the whole, and as a result there is a splendid lot of ducklings at The Hirsell; in fact, I hear that, taken all round, the quality is rather better than usual. Aylesburys, of course, predominate, but the Rouens and Pekins, although somewhat later hatched than formerly, are growing in a most satisfactory manner. There have

recently been added to the stock some Buff Orpington ducks from a well-known Kentish yard; and in all probability there will be strong teams of water-fowl coming South for the Dairy and the Crystal Palace Shows.

It will doubtless come as a surprise to most readers to hear that the Countess of Home is retiring from the poultry fancy this year, and that after November next her ladyship's name will not appear in the prize lists. It is pleasing to know, however, that the famous strain of water-fowl will not be disbanded, since the show birds and the breeding-pens are being presented to Mr. James Huntly, who has managed the poultry at The Hirsel ever since its start, and was, I believe, instrumental in forming that department. With this stock Mr. Huntly intends to commence on his own account, and he will take over the Hirsel Poultry-Farm in November, and carry on business and exhibit as Messrs. James Huntly and Son. It does not seem a great many years since Mr. Huntly "took to poultry." My first recollection of him in connection with the Fancy was at a little out-of-the-way place hard by Hutton, in Berwickshire, where I had gone for a change of air. I was rustivating at a mill, and, inquiring if there was anything of interest in the poultry line in the district, I was told that there were some ducks at the adjoining mill which would be well worth seeing. It was at the time that Mr. John Gillies was "creating" the modern Aylesbury, which was so soon afterwards to revolutionise the water-fowl world. I paid a visit, and had a most interesting chat with Mr. Gillies and a good look-round. His was indeed an ideal yard for water-fowl, and I have never seen a better establishment for the purpose than that which existed at Edington Mills, Chirnside. The pity of it is that he retired from the Fancy. Mr. "Jimmy" Huntly was then head poultryman, and was practically unknown in exhibition circles. But no one could have been more keen on the birds than he. The keenness still remains, not only for water-fowl, but for all breeds of poultry, and as an all-round authority he is equal to any. He is well up in the mating and rearing of prize stock, and he has not a superior at preparing birds for the show-pen.

MR. MELBOURNE'S RETIREMENT.

Another fancier who is retiring from our ranks is Mr. Reginald H. Melbourne, who, owing to pressure of private business, is unable to devote to his poultry sufficient time to enable him to go in for it at all extensively. His advent in the Fancy has certainly not been of long duration, but it has been a busy one. Although he commenced keeping utility poultry in 1894, it was not until seven years after that he went in for show birds. He apparently "struck oil" at the outset, and in the 1902-3 season his birds were among the winners at the chief events; and since then they have generally been in the first half-dozen at all the important exhibitions. It is as a Leghorn specialist that Mr. Melbourne "made a name," and particularly with the Black and the Blue varieties; in fact, he was quite notorious when the Blue was being brought out, to such an extent that the

Fancy almost witnessed a new variety under the title of Melbourne Blues! His was a fluent pen. He did not, however, confine his attention solely to Leghorns, showing other black varieties, such as Minorcas, Orpingtons, and Wyandottes, with a fair amount of success. His presence will be greatly missed at the shows, since he was of a genial disposition, ever ready to help the novice, and never hesitated to say what he thought, to which latter quality he once told me he attributed his success in the Fancy.

MR. J. H. GILBERT.

Chancing to meet Mr. J. H. Gilbert a few days since, I inquired about the poultry at Cowarth Park, Sunningdale, where for some seasons the Countess of Derby has had a large poultry establishment. It may not be generally known that the management of these renowned yards recently passed into the hands of Mr. Gilbert. And it could not be in better; his experience is such that it renders him suited in every way for the post, since he has made a lifelong study of poultry. Just prior to taking charge of the Cowarth Park establishment he was breeding exhibition stock at Cowton via Northallerton; but his services as a poultry manager have been in much request, not only in Scotland and Ireland, but on the Continent. He has started more than one fancier on the road to success, and he has himself been a most successful exhibitor. As a poultry judge Mr. Gilbert is a most competent man, and few can handle an all-round show better than he can; his capability in that direction, more especially in the North of England and in Scotland, where he has spent most of his life, has been fully recognised. When he first took over the management of the Cowarth Park Stud the chief breeds kept were Dorkings and Black and Buff Orpingtons; but to these have been added White Leghorns, White Orpingtons, and Barred Plymouth Rocks, which the Countess of Derby purchased from him. Hatching operations for the season as regards the exhibition stock have long since finished, since Mr. Gilbert believes in getting the show birds out early in the year; and the chickens are entirely satisfactory, his "crop" numbering well over 600. Both aspects of poultry-keeping are dealt with; in fact, the utility side is an important one, and a succession of table chickens for the house is a great feature. But the manager is well up to his work, and the *chef* commenced with home-grown chickens early in May, much, it might be added, to the delight of her ladyship, who is a keen poultry fancier.

THE ROSE-COMBED BARRED PLYMOUTH ROCK.

At its meeting last month, which was well attended, the Poultry Club Council considered the question of recognising the Rose-combed Barred Plymouth Rock as a new variety; but after a lengthy discussion it was decided that, as the birds, specimens of which were on view, did not sufficiently conform to the general characteristics of the Plymouth Rock, permission to include the Rose-combed variety in the Poultry Club standards could not be granted at present. That the Rose-comb

is a pure variety—that is, bred solely from the Plymouth Rock without any infusion of foreign blood—cannot be doubted; and at the meeting Mr. William Rice, who is largely responsible for its introduction, made no secret that he had obtained it from “sports” from the single-combed variety. His original pen consisted of a Rose-combed cockerel and three single-combed hens, and in the first season these birds produced 66 per cent. of offspring with the desirable head points and true to marking, while in the second season the percentage was 90. There is a tendency among the birds to breed specimens of the light stamp of colour, which is emphasised by the fact that so far Mr. Rice has not had a black “sport” from them—the introduction of a black hen or two would not come amiss!

THE MALAY BREEDERS' ASSOCIATION.

Mr. H. Fabian Russell has kindly favoured me with particulars of the Malay Breeders' Association, one of the new clubs which I mentioned in last month's RECORD. The Association has for its object the amelioration and advancement of the Malay fowl; and since most of the well-known exhibitors of the breed are members of the club, the fowl will doubtless be more frequently seen at the shows than it has been of late years. The principal varieties are Pile, Red, Spangled, and White; but no great store is put on colour, five points only of a possible hundred being allowed for it in the standard. The subscription is 5s. per annum, and the hon. secretary is Mr. H. Fabian Russell, 6, Northstead-road, Tulse-hill, London, S.W.

THE ROYAL SHOW.

One of the most important of the late June poultry shows was the “Royal” at Gloucester from the 22nd to the 26th. Generally speaking, the birds were in exceptionally good condition, but the entry of 754 was not up to the average in some classes. The turn-out of Old English and Indian Game was just half as big as at last year's event, although it was pleasing to find that Black Sumatra Game were quite representative with sixteen in two classes, a vast improvement on the one solitary entry at Newcastle. Langshans, too, were short of entries, and so were Plymouth Rocks. Wyandottes, other than Gold- or Silver-laced, which, unfortunately, had to compete in the same class, were forward in good numbers, and the White-laced and Spangled shown in the any other colour classes were certainly novel, if nothing else. The entry of Buff Orpingtons was well ahead, and so was that of Whites and adult Blacks, but the varieties (Jubilee and Spangled) were decidedly poor, eleven entries in four classes, and if they are expunged from next year's schedule, who can reasonably complain? The amalgamation of young and old birds in Minorcas did not result in an improved entry. One never looks for a strong turn-out of Leghorns at the “Royal” but that at the recent event was worse than ever. Dorkings, too, were not up to the mark, the most noticeable shrinkage being in coloured cocks and pullets. Even with six classes for Sussex, the total was below that for 1908, when the three varieties had to compete together. The entry of three in the class for

Speckled hen or pullet was a surprise, and so was that of seven in two classes for Reds. Brahmas showed a slight increase, but there was a falling-off in Cochins. On the other hand, Campines, Faverolles, and French breeds came up well. Cuckoo Orpingtons won in both of the any other variety classes, which is “passing strange,” since they were competing against some excellent Bantams and at least one really choice Hamburg, a Golden-pencilled hen. Water-fowl and turkeys were about as usual, and numerically not good, Rouen ducks and turkey hens being, in fact, poor.

SOME RECORD SHOWS.

Both at Ripon and Keighley, held on succeeding days, there was a strong entry, but the weather was against a good “gate.” The best classes at both events were those for Old English Game; but, since they were handled by different judges and they were not staged alike, those at Keighley being lower than those at the preceding show, the awards were somewhat varied. Redruth (Cornwall) Show was again a great success, and, as the weather was favourable to outdoor amusements, there was a big attendance of the public. The first of the July events was at Doncaster, when an increased entry was penned in the poultry section. July is generally a full month for poultry shows, but as the RECORD has to go to press early it is hardly possible for me to say much of them. Birkenhead closed with a total of 3,800 entries, of which number 830 were in the poultry section; last year the total was 893 poultry. For the Sussex County Agricultural Society's Show at Hove, Mr. Sharpe, the secretary of the poultry department, writes that “there are 504 entries—a hundred more than at last year's event—but it has been hard work to get them in.” It generally is at all poultry shows, and the solution of the late entry problem seems as far off as ever. What will induce exhibitors to enter early is a question that more than one hard-working honorary secretary would like to see answered. Clashing of important events has not been avoided in July. Birkenhead, Hove, and the Mid-Kent at Maidstone were all held on the same days. The Lincoln County at Louth and the Royal Northern at Aberdeen both came off on the 15th ult., but the distance is a safe one. The Highland, at Stirling, was held on the 20th, 21st, 22nd, and 23rd, and during those days there were the big Llandudno event; the Stafford County, at Tamworth; the East Derby, at Chesterfield; a big show at Saltash, Cornwall; the Denbigh and Flint, at Colwyn Bay; the South-Eastern Counties, at Tunbridge Wells; and Blackpool Show, all offering extensive classification and good prize-money. The Leicester County, at Hinckley; Waterford Show; the Hertford County, at Hatfield; and the Royal Lancashire, at Southport, all clashed, and how much to each other's detriment or advantage remains to be seen. Already over a score of shows are fixed for August Bank Holiday, while in that month there will be the great Yorkshire Summer Show at Beverley on August 10, 11, and 12; an important Wyandotte event at Kenilworth on August 12; and Worsley and Lancaster, both on the 18th inst.



Seasonable Economy.

A factor of considerable importance in profitable production consists in taking full advantage of seasonable opportunities to practise frugality. The newly mown meadow of June—or after—having furnished an attractively fresh run at a time when it was most acceptable and beneficial to the growing stock, the corn harvest provides the next thrifty opportunity. It is the tenant's flocks that should "shack" upon the barley, wheat, and oat stubbles, and not the landlord's game; the former cannot afford to sow for the latter to reap, and the fallen grain is as much his as is that in the sheaf. The day that sees the carrying of the last shock should also witness the colonising of the stubbles with the feathered stock, and in a normal season there should be a considerable acreage available during August in some of the more important poultry-producing counties. The management of the stock at stubbling time is a matter for individual regulation, but as a rule turkeys and geese may be driven to and fro in preference to the provision of temporary housing in the harvested fields, and in cases where water is not naturally available troughs must be provided and filled. A sufficient flock will in these particulars, in addition to the restraint and protection of the birds, give more or less full employment to a boy until the fields are gleaned clean. Well-grown chickens or laying hens will equally appreciate such a change of ground, and in circumstances where larger birds are undesirable these others will derive considerable benefit from the feeding. Young pullets do well on stubbles at a period when grain food is desirable, and the same situation helps the recovery of condition in birds freshly turned out of a breeding-pen. All such smaller stock may be very well housed in colony houses and moved from field to field in the wake of the reaper. In any case the economical producer uses for his own benefit the food he has grown, whilst the thriftless leaves it for the pheasants.

Feeding Goslings.

This is a very important period for those who have been running goslings along for the so-called September

or Michaelmas trade, the demand of that season commencing, as a matter of fact (to a limited extent—and the gosling trade is always more or less limited), in August. The period is important because the result is so largely dominated by the present feeding, and the margin of profit depends upon the utilisation of passing opportunities such as have been indicated in the preceding paragraph. Birds intended for the near-at-hand demand should be selected from those that are well-grown, the intervening period being occupied with the covering of an existing frame rather than in the growing of one. Christmas size is not required, but large birds are preferable to small ones in most markets and at most seasons nowadays, and provided a suitable size has been already attained, the acquisition of a desirable plumpness and marketable condition presents no great difficulty. The chief difficulty consists in minimising the cost, and only a good range will do this to the fullest extent. It is, however, no economy to stint the hand-feeding at this time, as regards either quality or quantity; the former must never be cheap, and the latter must balance that found on the fields. Barley meal, middlings, and the use of brewers' grains are advocated by some feeders, but experience inclines to the opinion that an early morning feed of Sussex ground oats and middlings, and a feed of sound grain at night, when the birds return from pasture, will give the best average results. Nevertheless, birds run on stubbles require very little else as long as the grain lasts.

The Moul.

Despite the best-laid plans of poultry-men and the various theoretical instructions of the text-books, the annual moult is at the best an uncertain occurrence and is never an unmixed blessing—from the point of view of the commercial producer, at any rate. This year it has in some instances been vexatiously unseasonable, because—as always—the English breeder is so largely at the mercy of the climate; and the climatic influence is often greater than that of the age of the bird, the management of the breeder, and the other dominating factors. Nevertheless, although the commencement

and duration of the moult may not be so infallibly controllable as some have imagined, and the enervating attempts to hasten the process are not to be commended to those who must of necessity preserve hardiness, it is equally undesirable to adopt the opposite extreme of a policy of *laissez faire*. A continuance of warm weather usually induces an early commencement and a quick recovery, just as an unseasonable summer tends to delay and prolongation; but the process may be assisted, although it may not be materially controlled, by a judicious regulation of the dietary. At a time when the fowls are disposed to eat less the quality must be correspondingly good. Any neglect to provide for the requirements of birds in moult must inevitably delay the recovery of condition, and may very easily be followed by a loss of stamina. Buckwheat may be beneficially used during the moult, and sound bonemeal should be added to the soft food; boiled linseed is often used with advantage, and sunflower seeds are useful—whilst vegetable food is essential.

The Stock Ducks.

When these birds have finished moulting they should be run free on a good grass range, and if it is of a suitable character they will require very little extra feeding until the time arrives to feed specially for egg-production. If soft food is considered necessary it may very well consist of rice, bran, and middlings; but this may be dispensed with if the range is adequate, and the feeding should in such circumstances consist of a sprinkle of sound grain only. The main object of present feeding is to prevent over-fatness, consequently fattening foods must be withheld, otherwise the birds will be out of condition at the commencement of their laying season.

SIX MONTHS' LAYING COMPETITION.

WE have received from Mr. W. Reynolds the balance-sheet of the Six Months' Laying Competition, 1908-9, at Street, which shows the somewhat small margin of £15. In the course of the letter accompanying the balance-sheet Mr. Reynolds says:

Personally, I had hoped that our depot's success would have inspired some other body of poultry-keepers to have offered to run a similar competition. A great deal of the work has naturally fallen upon myself, and I am not at all keen on being tied so closely for another season as I have been during the last. The Utility Poultry Club has, however, invited us to run a second competition, and we feel that for two reasons we wish to fall in with their request: (1) To show that last season's results need not be considered exceptional, and (2) to give time for other arrangements to be made to continue them in the future.

It is proposed, adds Mr. Reynolds, to vary the conditions in three details—viz.:

- (1) To give up all idea of an auction at the end.
- (2) To return pens which we consider immature, and waive all claims to fines.
- (3) To vary the feeding of the light and heavy breeds, so that both may get a better chance.

UTILITY POULTRY-FARMING ON FIFTY ACRES.

By F. E. GREEN.

Author of "How I Work My Small Farm," &c.

THERE have been so many utility poultry-farms run at a loss in this country that it is quite refreshing to find one where the owner makes a living, not by feather-farming for show, nor by taking pupils, but by



THE SMALL-HOLDER AT WORK. [Copyright.]

supplying the public with poultry and eggs to eat. Very few, indeed, of the birds on the farm are sold for stock purposes.

Economy in rent is effected in the first instance by the poultry-farmer running his birds over fifty acres rented by a dairy-farmer, who sublets them to the poultry-farmer; for example, the birds have the use of the fields after hay and corn harvest, when the number of birds would be at their highest, and in winter as well as summer the poultry-farmer retains the permanent use of one or two

of the sheltered meadows screened from the cold winds by copses. As the dairy-farmer obtains the advantage of getting his fields manured for nothing, the rent is a low one, and if every farmer could obtain a poultry-farming tenant on similar terms we might then hear less about agricultural depression.

The poultry-farmer has the use of a large barn and several sheds, and he has no need to keep a horse and trap, for it is part of the agreement that he can send his poultry for the table to the station by the milk-cart with the morning churns of milk. Besides several incubators and foster-mothers, a fattening-machine is kept going on the premises. For my edification, the poultry-

Presently he took a seat on a semi-circular crate, which he had made especially for carrying live birds on his back (another economy in carriage), and began plucking a bird, after its neck had been wrung so quickly that I hardly noticed the operation.

"Egg-farming by itself," he began telling me, "does not pay. I have a standing weekly order from one poulterer for four dozen birds all the year round. . . . Who fixes the price? I fix my own price. This bird, for instance, I shall price at 3s. 9d. . . . Oh, well, there is, of course, an occasional growl about price, but the order goes on all the same. It would be a wonderful deal that hadn't a bit of a grumble in it, wouldn't it?"



THE SMALL-HOLDER AND HIS DUCKS.

[Copyright.]

farmer caught hold of a White Orpington cockerel, and inserted the end of the foot-long indiarubber tube into the crop of the half-fattened chicken and began working the treadle with his foot. He laughed at my look of disgust.

"This is my money-making machine," he said. "I worked under a Sussex fattener for five years, and so I understand the most profitable part of poultry-farming. I use all the separated milk that I can get hold of from the farm. I pay fourpence a gallon for it, and mix Sussex ground oats with it. Then I use a great deal of fat from the butcher's, which you see cooking in that cauldron. This I mix in with the rest of the food."

. . . What kind of breed do I favour? Well, I think I prefer the White Orpingtons, which are not such leggy bounders as Buffs. Yes; I am very partial to the Faverolles, which fatten quickly, are short in the leg, and not as broody as Buffs. Turkeys? They pay better than any fowl—that is, if you have luck—but you must get the birds hatched before June. All my chickens are hatched from December to June; then I stop. This has been a terribly bad season for chicken-rearers, for during that cold spell of weather in February and March I lost about 150 chickens which might have brought me in 4s. 6d. apiece. During that awful weather in March I

used to pick up seven or eight chicks a day lying dead along the hedges."

As we walked across the fields to the tree-embowered meadow where the pens of pure-bred fowls were kept, he fed his newly hatched chickens running about outside their brooders with dry food ground very fine, which was invariably thrown on to a mat, so that it should not be lost in the grass. The great thing, he said, was to give chickens plenty of shade, and nearly all his batches of chicks were happily pecking about under the shade of spreading oaks.

This poultry-farmer works entirely unaided, except for the assistance of his wife. At hay-making time he gives his farmer-landlord a hand, who in return lends him a pony to move his hen-houses from field to field.

Like Mr. Richardson at the Orpington Poultry-Farm at Horsham, he is careful to keep only seven or eight birds in each grass-pen of pure-bred strains, where yearly the grass literally grows under the feet of the fowls, so few are there to tread it down. Thus the ground is kept sweet, and the plumage of the fowls is hidden behind swaying bents alive with insect life.

I observed that the gate over the wooden bridge across the stream (a valuable asset), which meanders through the farm, had been broken to pieces.

"That was done when the staghounds came through here," said the poultry-farmer, "and the hounds got into the wire-pens, and they *did* make a mess of my 6' t. wire in trying to get out. They managed to scramble over the top, but I had to spend a whole day in repairing the wire."

The soil, being clay, is deficient in grit, which has to be purchased in quantity, and was thrown down in little heaps on the headlands by gateways. Crossing the meadows, each with its flock of chickens hatched at different times, I noted that the favourite crosses for table birds seemed to be Dorking-Faverolles, White Orpington-Faverolles, and for eggs, Leghorn-Faverolles.

"Ducks pay very well," said this enterprising poultry-farmer, "and I am now waiting for green peas to come along to put the finishing touch on them. Yes; there is a great deal to learn in poultry-farming, more than most people imagine. The price one has to pay for a living at poultry-farming is eternal vigilance."

I believe him. Yet it was satisfactory to find that here was a man who was making a living by producing food for the people, and not by any extraneous method. This alone is an achievement. For here was a utility poultry-farm pure and simple.

LAYING COMPETITIONS.

By GEO. A. PALMER.

IN the May number of this journal appeared a well-thought-out contribution on laying competitions by my friend, Miss Galbraith, which contains so much truth about live stock in general as well as poultry that one might think she had spent most of her life on a farm instead of in the centre of intellectual circles. It is



FEEDING CROSS-BRED CHICKENS.

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with the idea of confirming some of her views from a life spent in the country, and for a great part of it in seeing all kinds of stock on all kinds of soil, that I venture to approach this subject: possibly also with a desire to throw a little light upon some of the questions she raises.

Of the educational value of laying competitions there can be no doubt. Primarily instituted to find the good laying strains of any and all breeds, not merely of those possessed by members of the Utility Poultry Club, as Miss Galbraith, who did not know us at the commencement, has supposed, but open to all England, so that any of those who had confidence in the laying powers of their birds could enter, they have to some extent succeeded. They have been the means of picking out many good strains which have proved themselves, and have also shown that there is a large element of luck. Miss Galbraith points out that one of the very best pens in her competition failed because they were badly chosen. The same might be said of many, some being chosen too matured, so that they go into a moult, just as some being young lose too much time at the commencement ever to attain a high position. This in no way detracts from the merits of the winning pens, but leads us to think that some of the others might

have been just as good had they been better chosen. Again, even if pullets are bred from great layers that have been trap-nested for several generations, not more than half will keep up to the high standard of their mothers. One or two may on trial prove superior, but it is equally certain that some will revert nearer to the original ancestral habits. There is something in type, but not enough for one to pick out the best laying pullets with sufficient accuracy, and no doubt many of the competitors left better birds at home than some they sent. There never was—I suppose never will be—a strain that will not produce wastrels. It is only by continual selection of the best, and again and for ever of the best, that one can keep up a productive strain of birds, animals, or plants. The average farmer, of whose intelligence I have a much higher opinion than have many who do not know him so well, acts upon this in the simplest matters. For instance, he rarely saves a young sow for breeding unless she possesses fourteen teats, and this not necessarily that she may suckle fourteen pigs, but because the presence of the full number of teats denotes a better milker, even as the two small supplementary teats on a heifer in addition to the required four are rarely found except in heavy milkers.

Apart from the selection of laying strains and arousing public interest in poultry, the competitions have taught much to those who read between the lines. Although not the avowed object, they do teach us a great deal about breeds. The average place attained by a dozen or more pens from the same breed from all parts of the country must have some relation to the value of the breed. In the Six Months' Competition lately concluded at Street we find the highest average place occupied by a single pen of Rhode Island Reds at twenty-two, a very good position indeed out of the hundred, but that is no guarantee that others of the breed would do the same. The Buff Rocks not only secured first honours, but reached the high average place of thirty of all the pens of this breed competing. Two pens of Anconas averaged thirty-four; eighteen pens of Buff Orpingtons averaged thirty-five; twenty-four pens of White Wyandottes averaged forty-one; eleven pens of White Orpingtons averaged forty-four; the White Leghorns reached fifty-three, and the Black Leghorns fifty-seven. This proves, if proof were needed, that the opinion of most practical men that this list includes all the most profitable breeds has been right.

Another lesson from the competitions is that birds will do better in small lots on small space than in large flocks on unlimited run. This many of us have recognised for years, but it needs driving home to the general public. Twenty-one square yards per bird is not running to excess in that direction, and yet how well the Street pens did on it. Perhaps the greatest lesson of all to the ordinary poultry-keeper is that fowls can be kept during the dead of winter, the most expensive time, as part of the food is required to produce heat, at a fraction under three halfpence a week, provided plain simple everyday foods are used and not expensive proprietary articles.

Miss Galbraith does well to point out that "to be reliable guides the competitions would require to be continued for two years," and that "the short winter test may popularise a breed that leaves too narrow a profit for the farmer who keeps the birds chiefly or solely for eggs and table." "The four months' competition fails to bring out what these birds will do in the summer and early autumn, and to the farmer with contracts to fill the winter layer may prove a costly delusion." To show how entirely we are in accord here, I give a quotation from something I wrote upon the subject a few weeks ago:

A six months' test tells us which breeds and strains have laid the most winter eggs, undoubtedly the most important consideration. Still, twelve months is more satisfactory, for it is quite possible for hens to earn double their keep all the summer, even at the lower summer prices, and it is quite possible for some broody varieties to do very little.

One factor is often entirely overlooked by the casual reader. A hen should not be judged merely by the number of eggs laid in a certain period, but also by the cost of production. Breeds vary much in food consumption, as every practical poultry-man knows, and the amount of food eaten has little relationship to the number of eggs laid. For instance, I have known a pen of Indian Game, averaging three eggs each per week, to eat just as much as a pen of Buff Leghorns to the same number laying six eggs each, and to keep this up for months.

Miss Galbraith is perfectly right in what she says of sheep suiting certain districts, but she does not go quite far enough. The very largest breeds are those which spend most of their time on arable land—the Lincolns, Cotswolds, and Hampshires. The medium-sized breeds, such as the Shropshires, are found on good pastures, and the smallest breeds, such as the Scotch, Welsh, and Exmoor, on mountain and moor-land. Most of the mountain breeds do well on good pastures in any part of England, but the great unsuitability of environment is found where arable breeds are transported to rich pastures, and so on. As an instance, the North-country Mashams—a cross from the Wensleydale and Black-Faced Scotch—do particularly well as far South as Hertfordshire. The conditions of poultry-keeping are much the same in all parts of England, and I have found that the best breeds give the best returns on any soil from light to strong, whether in Lincoln, Essex, Wiltshire, Somerset, or any of the counties between. There is a difference, and undoubtedly the Minorca does better in the South and West than in the far North, but such a hardy breed as the Buff Rock thrives anywhere. I do not mean to say that any breed moved a hundred miles would lay quite as well as they would have done at home, but the next generation hatched on the new soil would be quite adapted to it. Here again I can supply a fact, well known amongst farmers, from larger stock. Calves bought at a few days old to rear never do quite as well as calves of equal breeding born on the farm from cows that have been bred on the soil.

In fact, I have often heard old farmers say that they could see a difference if bought only from the next farm.

How often disappointed competitors have said that the sister pullets at home have done better than those sent to the competitions. This no doubt generally is so, and here again the quieter sitting varieties seem to suffer less from the change than the wilder non-sitters. At the competition held at Bagshot Miss Galbraith's own birds laid better than the best of the imported ones. The old proverb says that a cock crows best on his own dunghill, and it is equally true that a hen lays best in the home of her chickenhood.

Miss Galbraith says, "a laying competition without trap-nests, while useful in some ways, leaves the breeder in the dark as to the real value of his birds." This is quite true, but in a trap-nested competition the wild breeds would be still further handicapped. If we trap-nest Anconas and Black Leghorns at home they never lay so well as their less handled sisters. In fact, one eminent authority on utility poultry says that Black Leghorns will not bear trap-nesting. I do not wish to imply that on this account non-sitters should not be kept, as I think no one realises the value of these breeds until they have tried them, and, if they prove too wild for the particular situation, tried also some of the quieter first crosses from them. At the close of her most instructive paper Miss Galbraith sets us one or two problems that need some thinking over, the two first of which are to my mind of far greater importance than the last one. "What is meant by the word 'strain'?" Definitions would vary very much, but it seems to me that any family which possesses definite characteristics, whether of form, temperament, colour, or productiveness in such a measure that any of these are handed on from generation to generation is entitled to the use of the word "strain."

"What systems of breeding are best to produce greater certainty of results among the progeny of the best laying strains?" There will be far greater differences of opinion in the reply to this.

Some hold that it is impossible to have a strain without continued in-breeding. Although not objecting to occasional close-breeding when it is desired to fix certain characteristics in a race during its formation, I hold that it can be easily carried to excess, and that the first essential toward great productiveness is vitality, which is easily lost without periodical recruiting with new blood.

Miss Galbraith asks a third question, "Is it possible by a series of tests in all districts to discover which breeds, as well as which strains, are best suited to the varying conditions of soil and situation found on farms generally throughout the country?" I do not think that sufficient reliable information would be gained to justify the enormous trouble and expense.

The varying of seasons, the differences in the lie of the land for natural shelter and exposure to winds, the getting together of birds from different yards each time would all be disturbing elements, and I do not think one could make more than a rough guess as to which breeds suited certain soils.

SUMMER AILMENTS OF GOSLINGS.

By H. DE COURCY.

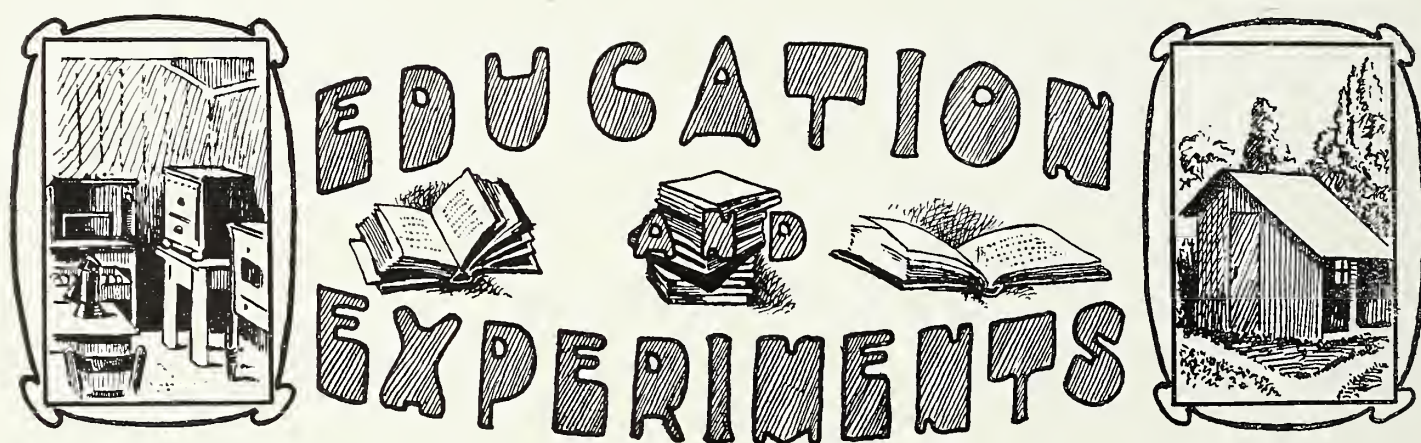
GESE, both old and young, are peculiarly immune from disease, and for this reason the breeding of them is often more profitable than the breeding of other kinds of poultry, even though the prices realised fall a long way short of those which can be obtained for turkeys, fowls, or ducklings in season. Yet there are two specific diseases from which young geese suffer and by reason of which heavy losses are occasionally sustained by those who raise geese in large numbers. The more serious of these is a swelling and lameness of the leg, and in some parts of Ireland is known as "gloonach"—an affection of the knee. Observation of many cases of lameness amongst young geese has led me to the conclusion that in most cases it is due to poverty of blood, brought about by poor quality of food or insufficiency of feeding, but a predisposing cause is, without doubt, inbreeding as well as breeding from immature stock. Geese which are raised upon rich grass lands are rarely affected, unless the summer should be unusually dry and the grass so burnt as to become wholly devoid of sap and unsuitable as a food for geese. On the other hand, we find numerous cases of lameness occurring among the geese which are raised upon land which is more suitable for tillage than for grazing, and where the grass is of a poor or dry quality. Another contributory cause of lameness is prolonged drought. Thus, when the summer is very dry, geese suffer much more from the peculiar lameness and swelling referred to than when it is fairly wet. Accordingly, it is advisable that when the weather is dry and the pastures have become parched symptoms of "gloonach" should be looked for. The first sign is a slight lameness, together with a desire to lie down frequently and to trail off from the flock when going to or coming from the feeding-ground. At this stage the affected bird should be put under treatment, for if allowed to remain with the flock for a few days acute lameness will supervene, together with great heat in the knee and foot joints, and enlargement of one or both legs from knee to tops of toes. If not taken in hand before this acute stage of the disease has come, there is little hope of curing it, and many goslings are lost by not being taken in time, for it causes them intense pain to move, and, after having lagged behind the flock for a day or two, they fall out of line and remain on some pond or stream, feeding upon water weeds of various kinds.

The remedy is simple and may be described in a few words. Put the affected birds into a house or shed having an even floor, littered not too heavily with straw; do not allow any water for swimming, and feed liberally upon nutritious mash or on oats steeped in water. Drinking-water must, of course, be allowed, together with plenty of grit and charcoal. If a bucketful of ashes from wood or coal is thrown in a corner of the house it will suffice, and grit and lime may be supplied in the form of old mortar. Let this treatment be continued

until all trace of lameness has disappeared, when the bird may be returned to the flock. The appearance of swollen legs amongst goslings may be taken as a sign that the flock requires more liberal feeding, and considerable trouble and loss may be averted by feeding the whole flock a meal of ground or steeped oats every evening.

Soreness of beak, head, and eyes is the only other complaint to which young geese are subject, and whilst the cause of this has also been attributed to poverty of blood, there is no doubt that it is caused not infrequently by an infestation of grass ticks of a small species, which fasten around the beak and eyes, causing pain, blindness, and loss of blood. Similarly, sore heads are caused by contact with thistles and other stinging

plants in the pastures; but in all cases close observation of the flock will lead to early detection of the ailment, and treatment is easy when the case is taken at an early stage. It consists in confining the goslings as before described and feeding them liberally, whilst the affected parts may be dressed in various ways. The writer has found a daily washing of the head with warm water and carbolic soap a simple and quite effective remedy, and has also been successful in curing affected birds by frequent washings with water to which a few drops of carbolic acid, Condy's or Jeyes's fluid or similar disinfectant had been added. In both diseases the essential points of treatment are complete rest, nutritious food, and local treatment of the affected parts in the manner suggested.



Geneva Results.

For twenty-five years the New York State Experiment Station has done very valuable work in relation to poultry. A report summarising the observations made states:

Specific gravity methods for determining freshness of eggs were found unreliable.

Small, active breeds of poultry do better with a wide ration than large breeds.

Hens fed on linseed-meal moulted rapidly and earlier in the season than those receiving a large amount of tallow.

Oyster-shells were found to be utilised largely in the construction of the egg-shell.

Eleven per cent. more eggs were obtained from hens when kept in pens without cockerels.

With growing stock ground grain gave on the whole better results than whole grain.

Rations containing animal food were superior to those of vegetable origin for growing chicks, laying hens, and ducklings.

Oregon College and Station.

Mr. Alfred G. Lunn has been appointed assistant to Professor John Dryden in the department of poultry husbandry at Corvallis, Oregon, U.S.A.

A demonstration train was recently sent through the southern section of the States, and during four days

was visited by 30,000 people. In the poultry exhibit a flat car was enclosed with a portable poultry fence, within which were a colony house and a flock of twenty Plymouth Rocks. Another car contained exhibits of twelve breeds of poultry, both live and dressed, various types of brooder houses in operation, incubators, trap-nests, bone-mills, egg-boxes, &c., and charts showing the values of different rations for egg-production.

Bacteria in Eggs.

An interesting report has been issued by the Pasteur Institute, in which it is shown that fresh and unfertilised eggs were generally free from bacteria, but that of fertilised eggs tested nearly 50 per cent. contained these minute creatures. It was proved that microbes are quickly able to penetrate the shell. In the case of fresh eggs these are able to delay contamination by micro-organisms when such are placed in contact with the shell, and even weaken their virulence, but stale eggs have not the same power of resistance. It would appear that the development of bacteria in a fresh egg is slow, increasing with the age of the egg.

Egg Preservation.

A German publication states that various experiments have been made in the tropics, where heat makes the

keeping of food very difficult, as to the preservation of eggs, and that water-glass gave the best results.

Deep-litter Feeding.

The Cyphers Incubator Company in their annual catalogue record the result of an experiment in feeding, which is suggestive. Tests were made in feeding upon the ordinary lines, and using alfalfa litter eight to ten inches deep, in which dry grain was scattered. In all cases the latter produced the strongest chickens with a great saving of labour, as sufficient food was mixed therewith each time to serve for three or four weeks. With two equal lots of White Leghorns in the 183 days

THE ANTRIM COUNTY COUNCIL MODEL POULTRY-FARM.

IN 1901 the Antrim County Council combined with the then newly-established Department of Agriculture and Technical Instruction for Ireland, and adopted the Department's schemes for the improvement of agriculture and kindred rural industries. In order, however, to obtain the grant available through the Department for such work, they were obliged to adopt the principle of self-help, so wisely insisted upon by the founder of the Department—Sir Horace Plunkett—and levy a rate for purposes of Agricultural Education. Only in that way



RANGE OF STOCK-PENS AT CULLYBACKEY.

[Copyright.]

(April 28 to October 28) of the test, the hand-fed birds weighed 152lb, and had consumed $931\frac{3}{4}$ lb of food, whilst the litter-fed lot weighed 191lb, to produce which they had eaten 849lb, a gain of 39lb for the latter on $82\frac{3}{4}$ lb less food.

Breeding Centres in Germany.

A German report states that the most influential means of promoting the poultry industry in Germany is by the establishment of breeding centres. Of these there are 2,995 in the Empire, of which 1,173 are stocked with Italian breeds, chiefly in Bavaria, 347 with Wyandottes, 254 with Minorcas, and 91 with Plymouth Rocks.

could a share be obtained of the large annual grant given by the British Government to Ireland for the development of Agriculture.

The poultry-keeping industry was one which at once received attention from the Co. Antrim Committee of Agriculture. An instructor, Mr. Percy A. Francis, was employed to give lectures on the proper methods of poultry-keeping, and to visit farmers' and cottagers' dwellings in order to give advice on the spot as to how improvements might best be carried out. It was soon found, however, that some method must be adopted to assist poultry-keepers to improve their stock, which in the majority of cases were of such inferior description as to make any profit from keeping them almost impos-

sible. Much difficulty was found, too, in the fact that the industry had received such scant attention, and the majority of persons who kept fowls had never seen better breeds or proper methods in actual practice. The male population as a whole looked upon poultry-keeping with the greatest contempt, considering it to be entirely a woman's hobby—a necessary evil from which no profit was ever to be expected. This, in spite of the fact (which, however, few realised) that the exports of eggs and poultry from Ireland amounted annually to nearly £3,000,000, and, more important still, was steadily increasing.

(c) To form a centre for experimental work.

(d) To produce a first-class laying strain of fowls.

Cullybackey is situated on the Midland Railway (N.C.C.) main line from Belfast to Portrush, and is thus in the centre of the county.

To give some idea of the results obtained from this farm, it may be stated that since its establishment nearly 60,000 eggs for hatching purposes, 2,500 day-old chickens, and 2,000 adult stock birds have been sent out to farmers, cottagers, and other poultry-keepers. The prices charged to County Antrim residents are 2s. 6d. per dozen for eggs, 6s. 6d. per dozen for live day-



SCRATCHING-SHEDS ON THE ANTRIM FARM.

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In order to overcome these obstacles the Antrim Committee, guided by their able chairman, J. S. F. McCance, Esq., established a model poultry-farm at Cullybackey in 1902. The objects of the farm were fourfold :

(a) To form a cheap and reliable source of supply to County Antrim poultry-keepers, of hatching eggs and fowls of the best utility strains of pure-bred poultry most suitable to the country.

(b) To offer a practical object-lesson on the best up-to-date methods of poultry-keeping.

old chickens, and 5s. each for adult stock birds. Over 4,000 visitors have attended at the farm for information and instruction. Special classes for farmers' sons have been held ; six weeks' courses for outside students ; whilst many of the present poultry instructors in Ireland have received training there.

Special attention has been paid to the production of laying strains, and for this purpose a large block of scratching-sheds (shown in the photograph) was built and fitted up with trap-nests. As a result of the use of these it was found that during the winter months—

November to February inclusive—out of the pedigree-bred young birds, as compared with the unselected parent stock,

1.7 per cent.	more laid from	50—70 eggs
25.0 per cent.	"	" " 40—50 "
3.3 per cent.	less	" " 30—40 "
23.3 per cent.	"	" " under 30 "

These figures show that 25 per cent. *more* birds gave a satisfactory egg-yield, whilst 23.3 per cent. *less* birds gave an unprofitable yield. One pen of 30 pullets in December laid 513 eggs, an average of 4 eggs per bird per week. Valuing these eggs at 1¼d. each, they amount to £2 13s. 5d., or a gross income of 13s. 4d. per week, which proves the value of laying strains. In using the trap-nests such wide differences in annual egg-production as 227 as compared to 57 were found in birds of the same breed and age, kept under the same conditions.

The farm itself covers some sixteen acres, and lies alongside the River Main, famous as a trout stream, whose high-wooded bank forms excellent shelter for the stock. Plenty of water is available, and running streams pass through all the duck-pens. A "lead" taken from the "man" at the head of the farm for power purposes in Cullybackey divides the land occupied into two parts these being connected by a wooden bridge.

Some thirty or forty breeding-pens are accommodated in large grass runs, and housed in portable open-fronted combined roosting- and scratching-shed houses. The layers are kept for their first laying year in a long block of American scratching-shed houses, fitted up with trap-nests, and having duplicate runs front and back. A range of separate houses for stock cocks is built at the back, and a double-walled incubator house of about 1,000-egg capacity was recently added. The chickens are reared in outside foster-mothers even in the coldest weather, and the earliest birds usually thrive the best. Cramming is done for educational purposes, and along with killing, plucking, trussing, shaping, egg-packing, &c., is taught to students, and shown to visitors.

The stock consists of nine breeds of fowls and two of ducks. White Leghorns, White Wyandottes, and Barred Plymouth Rocks are the favourites, and the greatest demand is for their eggs. Exhibition points are kept secondary to laying qualities and hardiness.

In addition to the model poultry-farm, the Antrim Committee of Agriculture has established twenty-five Turkey Premium Stations in various parts of the county, and nine Egg Premium Stations in the poorer districts. At the Turkey Stations American bronze cocks of an approved standard are subsidised for the use of the district. At the egg stations hatching eggs are sold at a low price from approved stock birds, and the owner is given a premium of £5 provided he sells a certain quantity, and generally complies with the conditions laid down by the Committee.

Poultry-keeping in Co. Antrim is on the up-grade. Co-operative poultry societies, with annual turnovers of £4,000—£7,000 in eggs, are now working most successfully, and endeavours are being made to extend them. So far as the farmer is concerned poultry-keeping on proper lines is practically a new industry, and offers enormous possibilities. It has grown, in spite of his apathy, whilst he has been frantically endeavouring to continue older branches of farm practice foredoomed by foreign competition. Let us hope that the rural population of this country will, before it is too late, wake to the importance of this comparatively young industry, and seize the opportunities offered to it by our home markets before the

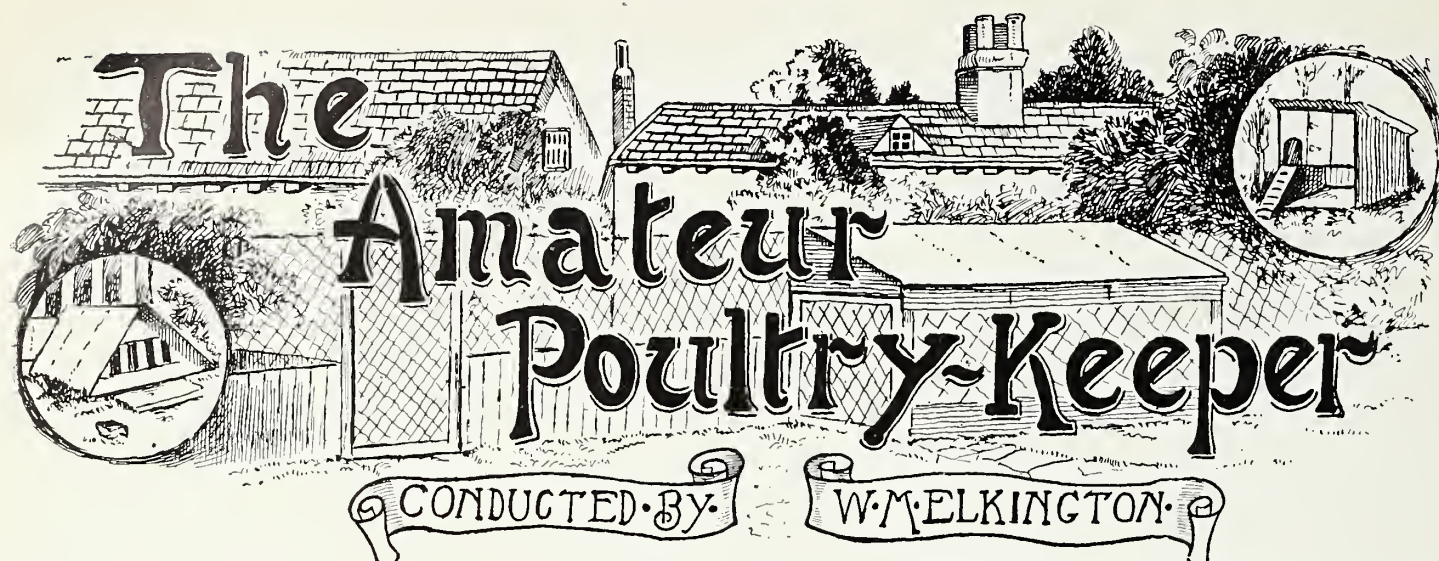


THE "HOLM" FIELD.

[Copyright.]

active and alert foreign competitor makes their doing so an impossibility.

The most difficult work to be done, however, is to fight the men's inherited prejudice against poultry-keeping and arouse their interest in it. Until that is done in any country no real advance will be made by teaching women alone, for they can do little to improve and develop their poultry-keeping without the co-operation of the men on the farm or at the cottage.



Accommodation.

A great many amateurs experience difficulty in finding sufficient and suitable accommodation for all the fowls they want to keep, and a common mistake is to endeavour to crowd as many birds as possible into a small space instead of regulating the number of fowls according to the accommodation available. I recently came across a beginner who at the bottom of his garden was keeping a dozen laying hens, about thirty chickens, and two batches of ducklings (about sixteen in all), whereas the space available was no more than would have sufficed for the dozen hens. The chickens were not doing well, and considering that they were kept in such ridiculously close quarters no other result could have been expected. Why will people insist upon trying to rear chickens when they have no suitable accommodation? It may be all very well to bring up a few early birds for the table, but the object in most cases is to rear them for stock purposes, and putting all the trouble and risk on one side, I doubt very much whether they can be reared to a productive age any cheaper than they can be bought from a good poultry-keeping farmer. Chickens kept in close confinement grow slowly, and take a long time to arrive at maturity, whilst as a natural consequence the cost of rearing them is very considerable, so that as a general rule I cannot advise those who have no commodious grass runs to attempt the rearing of their own stock with a view to economising.

Farming Out.

Those who live in small towns and country places, and have not sufficient accommodation on their own premises to keep as many fowls as they would like, can very often make arrangements with farmers to run poultry on the pastures at a comparatively low cost. I have been following this plan for some years with very satisfactory results, and last winter I advised an amateur who was overcrowding his limited accommodation to endeavour to make similar arrangements. I have a letter from him to say that he succeeded in inducing a farmer to let him run fowls on land within three minutes' walk of his house, and this season he has reared seventy chickens,

and is keeping them at less than half what they used to cost in confinement, whilst they are growing at double the rate. I may mention that I pay 10s. a year for each house, containing about twenty-five adult or up to forty half-grown chickens, and taking into consideration the saving in wire-netting, labour, and food, I believe I can keep fowls cheaper by this plan than in any other way. At any rate, I commend it to amateurs, who will find that, as a general rule, farmers are quite willing to enter into such an arrangement, though they usually stipulate that houses shall be moved frequently from place to place.

Draining a Small Run.

There is nothing worse for poultry, and more miserable for those who attend to them, than a wet, muddy run, and any small run is liable to become a quagmire in wet weather unless it is properly drained. A small grass run is more often than not a delusion and a snare, for the grass has very little chance to grow, the droppings remain on the surface, and in winter and during bad weather the place becomes little better than a mud-heap. Such a run can only be drained by removing the turf and surface soil to the depth of six or eight inches and filling up with about five inches of brick-end and rubble, with three inches of loose gravel or coarse ashes on the top. With a surface like this all droppings and impurities are washed away by every shower of rain, and if the gravel or ashes are raked over occasionally the place will be dry and clean after the heaviest rain. In a small run this is a more important matter than the provision of a few blades of grass, for in any case fresh green food would have to be given, since it is unreasonable to expect poultry to eat the fouled and stunted grass that is usually to be found in small, well-stocked runs.

Breeds for Amateur Fanciers.

We have heard a good deal lately about the possibilities existing for beginners and amateurs with some of the new breeds. When the Black Wyandotte was becoming popular two or three years ago amateurs were strongly advised to take it up on the ground that, as the variety was quite in its infancy, all would start on the same level, and the novice would have just as good a chance as the

professional. But time has shown, as many of us prophesied, that advice of this kind is misleading, for when it comes to improving a new variety a beginner has no chance whatever against a skilled breeder. Black Wyandottes have improved to a remarkable extent, and maybe one or two amateurs have been fortunate enough to produce a few winners by a slice of luck; but the improvement is due mainly to the experienced breeders of other varieties, who understand the principles of breeding and know what they want and how to get it. Yet, in spite of this lesson, amateurs and beginners are still being attracted by every new variety that makes its appearance, in the belief that they will have just as good a chance of success as those who have been breeding prize poultry for years. The result is that they usually buy some rubbishy stock at high prices, and in a year or two find themselves left hopelessly in the rear. I strongly advise all who may be thinking of taking up the fancy branch to go in for a well-established variety that will breed fairly true to type.

Cockerels for Killing.

Those who kill off their cockerels for the table, as many do, would do well to remember that, as a general rule, it is difficult to get birds into fit condition for killing whilst the feathers are growing. If one can catch the birds when little more than three months old, before the first lot of adult feathers have commenced to grow, one will usually find them in nice plump condition, though they may still be small; but a little later, when the feathers are growing fast, they will go off in condition, and will not be again fit for killing until they are well feathered. Besides the question of condition, one must also remember the difficulty in plucking a chicken that is full of pin-feathers half an inch long!

THE AMATEURS' GUIDE FOR AUGUST.

THIS is one of the turning-points of the year, when old birds cease their labours for a time, and many of the early hatched youngsters come into profit. This year we had such a wet and sunless June that moulting is likely to be later than usual, but there are sure to be plenty of early hatched pullets laying by this time, and already we have heard of several instances of remarkable precocity. There is nothing remarkable, however, in a pullet commencing to lay when five to six months old, especially when she has been kept in confined runs and fed on stimulating food. Amateurs and small poultry-keepers usually find their pullets come on to lay early on account of the stimulating character of household scraps, which are largely used, whilst it must be remembered that the weather at this time of the year is favourable for egg-production.

At the same time, these early layers do not always make the most profitable hens, and we should prefer to see a pullet attain good size before she produces an egg, so that if any birds are seen to be reddening up for laying before they are well matured it will be a good plan to move them to fresh quarters and withhold some

of the more stimulating food. It is true that eggs are worth producing just now, but those laid by immature pullets are generally small and unsaleable, and it should be remembered that if a pullet begins laying now she will probably fall into moult before the end of the summer, and will be idle during the winter, when egg-production pays best. Everyone who keeps hens for laying should concentrate attention upon getting as many eggs as possible during the winter, and that will not be possible if immature pullets are allowed to waste their energy by precocious laying during the summer.

We have already stated that if hens are shut up and put on to half-rations for two or three weeks it will hasten the moult, for an early moult is desirable in view of winter egg-production. But when this is done the birds fall into lower condition than they would in the ordinary course of events, and it is necessary to aid their recovery by supplying a generous quantity of suitable food for maintaining strength and making new feathers. House-scraps and meat will come in very useful, and a little maize may be used with the hard corn, together with a tablespoonful of hempseed every day. With fine, warm weather, birds do not suffer much through moulting at this time of the year, but it is advisable to keep them confined during the greater part of the day. Green food and grit must, of course, be provided all the time.

Poultry-keepers must not cease their efforts to exterminate insect pests, for until the cold weather comes they will continue to increase and do a great deal of damage, especially among the young stock, unless they are checked. As we have previously advised, limewash and creosote preparations are the best dressings for the woodwork, whilst nesting material should be cleared out and burned every few weeks. Unless these precautions are taken it will be difficult to keep young stock growing as they should do at this time of year.

Those who enjoy the advantage of running their poultry on farm-land should move their stock on to the aftermath and stubbles as soon as the crops are cut and carried. Meadow-land is greatly benefited by poultry, and the birds may be run more thickly than upon pasture. This is also the case with arable land, and the great advantage of putting poultry upon the stubbles as soon as the corn is cut is that they find a great amount of fallen grain, not to mention insect life.

Unfortunately, comparatively few are able to keep their fowls amid such ideal surroundings; but even on a small establishment a change from one run to another is beneficial to the stock, especially if the new run has not carried poultry for some little time. Grass should be kept short, and it is a good plan to run the scythe over it two or three times during the season, for the short hay will come in admirably for nest-boxes or for packing eggs.

Those who have table chickens or ducklings to go off should try to put them on the market as early as possible, for with the advent of game prices come down with a run. During this month the seaside resorts generally prove the best markets for eggs and poultry, and one can

sell fowls of all kinds, from plump young chickens to fat old hens, at good prices. Eggs will be saleable anywhere right up to next spring; but the table-poultry market becomes very slack after this month, and supplies are so heavy that prices are barely remunerative. This should convince one that early breeding is necessary to achieve success in the production of table-chickens.

Those poultry-keepers who may be thinking of extending their establishments will find the present a suitable time for putting up new runs and houses. If the ground is dry and hard for digging post-holes, it is a good plan to take off the turf and pour a bucket of water into the hole a day before digging. Always tar the bottoms of posts and any woodwork that goes into the ground, and have the remaining portion of the woodwork treated with creosote preparation, which is a cheaper and more effectual preservative than paint.

THE BEST BREEDS FOR AMATEURS.

By W. M. ELKINGTON.

(Concluded from page 634.)

THOSE who desire to make a speciality of table chickens will find Faverolles and Sussex very suitable, for these are quick growers and of good colour and quality, whilst they are also good enough layers to provide eggs for hatching early chickens, which is a very important consideration. Finally, we come to the back-yard poultry-keeper who keeps a few hens for laying in a very small sheltered pen that is generally fitted up as a scratching-shed. It would be useless for him to go in for general purpose fowls, and therefore he must select some of the most active, the smallest, and the most economical breeds available. Fortunately, we have in the Leghorn a breed particularly adapted for this purpose. It is a small eater, active, and a splendid layer, besides being a non-sitter, so that when well managed it gives a handsome return. Of the several varieties the blacks are perhaps the most suitable for a back-yard run. They do not show the dirt like the whites, and of the two I am inclined to think they stand confinement the better. We must not, however, forget the Minorca, which has for many years been the favourite for small runs. It does better under these conditions than at liberty, for it requires a certain amount of shelter if it is to do well in winter, but the size of its eggs and its prolificacy put it on an equality with the Leghorn. Nevertheless, there are more good laying strains of Leghorns than of Minorcas at the present time, for the latter breed has not received so much attention from specialist breeders as it deserves, and that fact may give the Leghorns an advantage.

So much for pure-bred stock. Readers may ask, however, whether mongrels and cross-breds have no merits for any of the purposes enumerated. As regards the mongrel, one cannot get away from the fact that it is usually the product of careless, indiscriminate breeding, and for that reason it is not to be relied upon. Nevertheless there are some good layers among the mongrels.

I have known individual birds that have put up records in egg-production equal to those of the best line-bred strains; but such specimens are very rare, and among a flock of twenty mongrels one might have one good layer, half a dozen moderate, and the remainder comparatively useless. There are no carefully bred strains of mongrels, and for that reason they cannot be depended upon to average a good number of eggs like pure-bred birds from carefully selected laying strains.

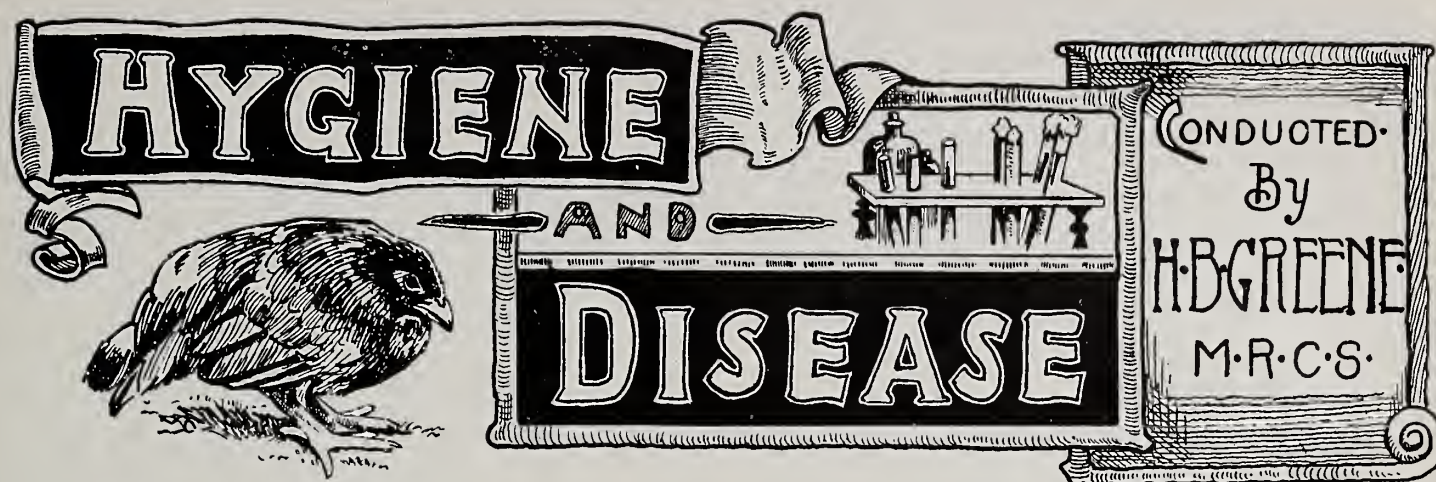
With regard to cross-breds, it may be stated that a first cross between two good pure breeds generally produces a useful fowl, but this plan is more suitable for the production of table or general purpose poultry than for layers pure and simple. No first cross, for instance, could prove a better layer than a well-bred Wyandotte or Leghorn, and it might not prove nearly so good. There is always some uncertainty about crossing. There is another consideration, for when an amateur



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A CELEBRATED LIGHT SUSSEX PULLET,
Owned by Mr. E. W. Bunney, Barcombe.

commences to cross two breeds the question is, where is he to leave off? He may, if he possesses some skill, make further crosses and develop a useful type of his own, but in the case of a beginner the stock are far more likely to degenerate into mongrels. There is also the point that laying specialists do not devote much attention to cross-breds, and the amateur will find the laying specialist a very useful person to rely upon. It is far better for an amateur who has no knowledge of the business of breeding laying stock to procure birds from a skilled breeder than to endeavour to evolve strains of his own out of inferior stock, and if only for that reason I am strongly of opinion that even the back-yarder has a better chance with pure-bred fowls than with either mongrels or cross-breds, provided he can buy stock from well-selected strains at a reasonable figure.



POST-MORTEM EXAMINATIONS.

We have made arrangements by which post-mortem examinations of poultry and game can be effected for our readers upon the following conditions :

1. *The specimen is to be forwarded postage or carriage paid and securely packed to "Biologist," 297, Trinity-road, Wandsworth Common, London, S.W.*
2. *The fee of 2s. 6d. (stamps will not be accepted) must be remitted with each specimen and a letter giving particulars of feeding and housing, or any symptoms which were observed before death.*
3. *Birds should on no account be addressed to the office of the paper. If forwarded there they will be returned to the sender.*

It is recommended that specimens be dispatched by parcels post, where practicable, and as soon after death as possible. A reply will be received by letter, defining the disease, its cause, treatment, and prevention.

Special Notice for the Month of August.

Readers are particularly requested not to forward any birds for examination between the 9th and the 23rd of this month, as, owing to holiday arrangements, they cannot be attended to between those dates.

Poisonous Plants.

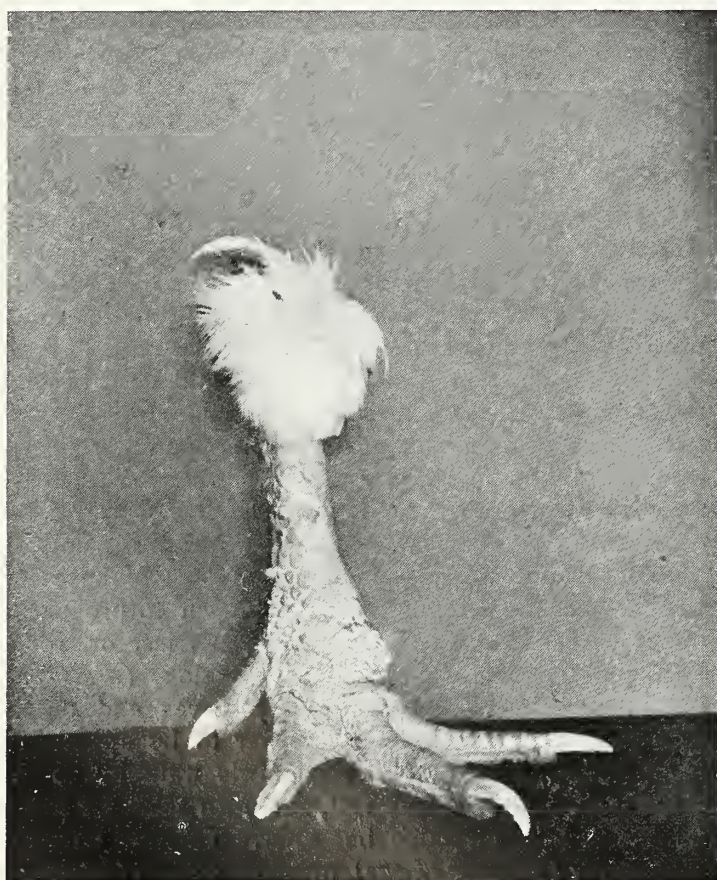
To be convinced that fowls possess the sense of taste in a very highly developed degree one has but to observe to how great an extent they are capable of exercising a choice when turned into a vegetable garden or field where plants abound in variety. Even if a handful of chickweed is mixed with one of mustard and cress and thrown to chicks only a few days old, it is evident at once from their demeanour that the pungency of the last two is not altogether to their taste, and as long as the chickweed lasts selection is made in its favour. When it is finished the more unpalatable greenstuff is attacked with shakings of the head and other signs of aversion. The presence of this sense of taste in fowls is

apt to be completely forgotten by those who would seek to establish that before a chick is capable of discriminating between what is and what is not acceptable to its palate some special maternal education is necessary. No such parental training is requisite, at least, in matters of taste, for the incubator-hatched chicken is as well endowed in that respect as his naturally hatched brother. And, in showing a marked preference for this or that kind of herbage, fowls must be greatly assisted by the various flavours of the juices they contain. Sweetness, bitterness, sourness, succulence, or pungent heat are no doubt the qualities that play upon the sense of taste and seem to be sufficient in themselves to make it clear whether the particular herb is one to be desired or shunned. Woodlands and fields abound in poisonous plants, and yet it is seldom, except in the case of birds that have been starved of green food and have become ravenous for it, that fowls ever succumb to vegetable poison as thus obtained. Protection apparently lies in the fact that the undesirable plants have repulsive flavours. But since there is just the possibility of the occasional poisoning of poultry by noxious plants, it may not be out of place to enumerate a few of those that have at one time or another been known to produce a toxic effect, either by their leaves, berries, or roots. Perhaps the most familiar is the foxglove (*digitalis*), which, with its dark green glossy leaves and purple spike of flowers, must surely appear to be appetising. Nevertheless, I have often seen fowls walk up to the plant, peck a piece of the leaf, and turn aside for something else less attractive but safer. Then we have the wild poppy (*papaver rhæas*), meadow saffron (*colchicum autumnale*), henbane, hemlock, spurge (*euphorbia*), milk vetch, belladonna, convolvulus, male fern, and water-hemlock (*cicuta virosa*). Of the larger shrubs and trees, mention may be made of the yew-tree, laburnum, and box, although I am inclined to doubt the poisonous properties of the last-named, for I have often seen fowls eating its leaves without apparently any evil

after-effects. The cultivated flower garden, again, contains many poisonous plants. Anemones, daffodils, aconite or monkshood, the sweet-scented tobacco plant, larkspur (*delphinium stavesagria*), lily of the valley, and the little blue border plant known as lobelia must all be considered as noxious to poultry. But, it may be objected, fowls do not usually have the run of the flower garden; besides, the unpleasant flavour of most poisonous plants affords protection to themselves against being devoured and to the fowls against being poisoned. To a large extent it is so, but a danger arises, especially in suburban poultry-keeping, when flower borders are weeded, seedlings thinned out, and plant rubbish swept up, if the resulting collection is thoughtlessly given to fowls in confined runs. Such birds are generally always ready for green food in any form, and in their eagerness to satiate the craving the bad is often taken in with the good. This cause of poultry-poisoning is by no means rare. Twice last summer I met with instances of it, the poisonous plants being, I believe, aconite and lobelia.

Scaly Leg.

This disease, known also by the names of "chalky leg" and "fish-skin disease," is so common among



"SCALY LEG."

[Copyright.]

poultry that any description of it would seem superfluous were it not that information regarding the prevention and cure is frequently being asked for. Its distinguishing features are a scaly mange attacking the surface skin of the shanks and toes, white and grey

crusts standing out from the leg, which at times form unsightly masses so large as to cause the bird to be lame, and an inflamed and bleeding skin beneath the raised-up everted scales. These inflammatory changes in the superficial skin are caused by a parasitic mite (*dermatoryctes mutans*), which burrows beneath the scales of the leg. The females of this insect are about 0.4mm. in length, the males being somewhat smaller, and they also differ in shape, the female being more round than the male. Although the parasites are the direct cause of scaly leg, and abound in hen-roosts where darkness and dirt prevail, there is reason to believe that fowls running on dry, dusty floors, such as those made of cinders and ashes, are much more liable to be attacked than those that run in long grass. And one would expect to find it so, since any influence tending to dry up, crack, or render scurfy the scales of the skin would have the effect of providing cover for the mites. Once beneath the hard scales, their multiplication proceeds rapidly. It is noticeable, too, that while the disease is met with among fowls, turkeys, pheasants, and cage birds, it is unknown in ducks and other water-fowl. Various methods of treating scaly leg have been recommended, and there is little to choose between all those that aim at the cleansing of the leg, the destruction of the mites, and the disinfection of the premises. Soft soap and paraffin, ointments of tar, creosote or carbolic, petroleum, sulphur, soda, ichthyol, and lysol are but a few of the remedies that might serve as equally effective applications. A line of treatment as good as any is to wrap round the shanks cotton rags soaked in glycerine, allowing them to remain on for a few hours, the fowl meanwhile being placed in a small straw-lined basket. On removing the bandages, wash the legs in hot water with coal-tar soap, using a soft brush or flannel, and removing as much of the scales as possible. Finally, after drying them, apply thickly an ointment of ichthyol, or, better still, paint over with the liquid antiseptic soap known as lysol. Repeat the treatment on the second and third day, keeping the bird on a straw floor during that time. It is advisable to have the perches and nest-boxes washed with disinfectants, while fumigation of the roosting-sheds with sulphur or formalin and removal of the surface earth and ashes of the run are necessary in order to complete the rout of the enemy.

LIVER DISEASE IN POULTRY.

By H. B. GREENE, M.R.C.S.

OF all diseases of poultry there is none, perhaps, which is more discussed, whenever the subject of disease comes up, than liver disease. There is none, on the other hand, that is more misrepresented, nor any more entangled in the meshes of error as it is usually presented to the poultry-keeper of average intelligence. It is not his fault that it is so. The fact is that there are two or three diseases of fowls in which

the liver undergoes striking changes in form, substance, and damaged function either by itself or in conjunction with similar degenerations in other important organs.

Until comparatively recent years, indeed, one might almost say until the commencement of this century, veterinary science has given little heed to the investigation of poultry pathology, and it is only quite recently that the discoveries made in the field of human bacterial diseases have given an impetus to the more minute study of poultry maladies. Nor is it to be wondered at that veterinary practitioners find other branches of their work more remunerative. Fowls as patients rank infinitely lower than the larger farm animals, while as compared with the returns in connection with attendance on pet dogs and cats they are of no account. Hence of necessity they depart to their Nirvana unaided by veterinary art. Having occasion recently to make a railway journey, I entered a compartment the sole occupant of which was a lady, who informed me that she was proceeding to town in order to attend the Animal Congress. Anticipating, from certain remarks, the possibility of being drawn into a discussion on vivisection, I managed to turn the conversation on to the question of the causation of the brilliant colouration of the boiled lobster. From that we passed on to the flaying of seals, the plucking of osprey plumes, and finally to cats, of which she kept a large number. One of these, I was told, had recently passed away under circumstances that involved a consultation fee of ten guineas to a veterinary specialist and an account of £3 10s. to the ordinary attendant. The cat was only what might be termed a common or garden cat, and possessed neither exhibition nor pedigree value.

This anecdote supplies, at any rate, one reason why fanciers have been left to label the diseases of poultry, and in many instances have labelled them inappropriately. Liver disease is a case in point, concerning the nature and definition of which poultry-keepers would probably range themselves in two different camps. One section would say that liver disease was a defined contagion, very liable to spread, dependent on pedigree, and showing, on post-mortem examination, nodules of disease not only in the liver, but also in the spleen, intestines, and other organs, and sometimes in those regions without affecting the liver at all; in short, they would apply the name to what we now know to be a bacterial disease, having no special or exclusive association with the liver, and to which the title of tuberculosis should alone be applied. The other faction would hold, and I think more rightly, that the only diseased state worthy to be classed as liver disease should of necessity arise in, and be limited to, the liver. Hypertrophy, the true liver disease, in which enlargement is accompanied or followed by fatty degeneration, alone fulfils these conditions. Klein's enteritis, certain poisons such as phosphorus, the toxic effects of some micro-organisms, and chronic heart and kidney affections may also cause inflammatory changes in the liver substance, but, like tuberculosis, they have no claim alone on that account to be classed as liver disease.

At present, however, the confusion seems to be between tuberculosis and hypertrophy, and, to make matters worse, a leaflet issued by the Board of Agriculture some years ago, and I believe still in print, treats of tuberculosis and liver disease as though they were the same thing, while nearly every poultry paper contains some allusion to the contagiousness and virulence of what is termed liver disease, but is obviously intended to refer to tuberculosis. To make a clear distinction between the two is very necessary if we bear in mind that the one is hopelessly incurable, extremely liable to spread, and accounts for about 25 per cent. of all poultry dying of disease, while the other, with a mortality of about 8 per cent., is, if not too advanced, quite amenable to treatment, and in no way infectious. In all that follows, therefore, it is my intention to treat of hypertrophy (or enlargement) of the liver, its causes, symptoms, and treatment, designating it as "liver disease," and exclude from that definition all other maladies, and especially tuberculosis.

Causation.—The causes of hypertrophy of the liver are chiefly concerned with food. Feeding in excess is certainly one of them, and the change in the liver is generally preceded by sluggish movements and distension of the crop and gizzard, retention of undigested food in those organs as well as in the intestines. But a much more potent cause of liver disease lies in the feeding of fowls almost entirely or in greater part on maize and barley and their milled products. Feeding largely on animal fat will assist, but there is something peculiarly injurious in maize. The large amount of fats and oils contained in it, the size and hardness of the outer covering, and perhaps also the frequency with which it is met with in a damaged or mouldy state, make it by far the most dangerous of grains if used continuously or in large proportion. No one who has examined a fair number of poultry that have died of disease can fail to be impressed with the numbers that come by their end through liver disease, and in nearly every bird the contents of the crop and gizzard will point to maize and barley as the staple diet.

Symptoms.—The first sign that a fowl is tending towards fatty disease of the liver is increase in weight. It is worth mentioning here that just the opposite occurs in tuberculosis, in which "going light" is an early symptom. Increase of weight and fatness persists until nearly the final stage of the disease. The comb, wattles, and face remain a bright red, or take on a dull, bluish tinge from congestion. This sign of sluggish circulation tells of full blood-vessels, and explains how it is that apoplexy so frequently supervenes at this period.

The excrement is an important symptom to note. It is generally at first semi-liquid of a dark yellow ochre colour, and evacuations are frequent. Thirst is noticeable, and a large quantity of water is drunk, especially after feeding. The appetite remains good, although the bird is capricious and faddy in what it eats, with a tendency to pick and choose. The crop is seldom completely empty, even in the early morning, and,

whatever else is refused, there is always a welcome for fresh green food.

If a fowl in this phase of the disease is killed or chances to die from one or other of the complications that ensue, a post-mortem examination will show a liver considerably enlarged, of a deep red colour, engorged with blood, shining and greasy, as though it had been soaked in oil, but fairly firm under the knife. The intestines are inflated as a result of flatulence and indigestion. They are laden with masses of fat; so also are the mesentery—or as it is termed by butchers “the leaf”—the ovary, and the oviduct.

The next stage of the malady is distinguished by a marked accentuation of all the signs enumerated. Diarrhoea increases, the excrement being perhaps blood-stained or blackened by congealed clot; the face, comb, and wattles become a darker blue, or if jaundice supervenes they may be pale or tinged with yellow bile; more fat is laid on internally, and the liver on examination will prove to be greatly enlarged. So large may this become by the deposit of fat globules between and in the substance of its cells that on one occasion I have removed from an Orpington cock a liver that turned the scale at a pound and a half. Abdominal dropsy follows, the kidneys also undergo fatty infiltration, while the heart enlarges both from the same cause and from the strain of extra work.

This stage is seldom passed, and death usually takes place from syncope, or an accidental rupture of the softened liver. If the bird does survive it is only

for a short period, during which it becomes anæmic exhausted, and thinner, but never so emaciated as does the victim of tuberculosis.

Treatment.—This disease of the liver is certainly the one and only form which has a full claim to the title “liver disease.” It has no connection whatever with tuberculosis; it is nearly always the outcome of improper food or an injudicious system of feeding; it is neither hereditary nor is it incurable. The symptoms, as contrasted with those of tuberculosis, admit of no excuse for confounding the two diseases, and if the differences between them were only fully realised and the proper titles allotted to each of them, there is no doubt but that the present high mortality would be reduced.

Part of the treatment consists of a plentiful allowance of green food. Nothing in this way is better than freshly gathered dandelion leaves when procurable, for the taraxacum they contain is a valuable liver stimulant. It is not generally known that the sliced roots of the plants can be steeped in boiling water to make an infusion equally effective when the leaves are no longer obtainable. The roots should be gathered and stored in a dry box at this time of year. The infusion is conveniently mixed with the morning soft food, and is always beneficial to birds in confinement as an occasional liver tonic.

Two or three weeks of such treatment will soon bring back health to a liver-stricken flock, but the diet will have to be carefully attended to for a much longer time or relapses will recur.



CHICKENS AT LIBERTY IN A FIELD OF CURRANT BUSHES.

[Copyright.]



THE BEARDED BANTAM CLUB

(LE CLUB AVICOLE DU BARBU NAIN)

OF BELGIUM.

By LOUIS VANDER-SNICKT, of *Chasse et Pêche*.

A GENTLEMAN wishing to give a free course to his artistic temperament established himself on one of the hills around Brussels. He found a real satisfaction in securing all the ornamental birds it was possible to procure in the Zoological Gardens and from the animal dealers of Europe. Our new fancier made the acquaintance of an old breeder of all kinds of aviary birds, fancy and water-fowls. This combination of an artist and a practical breeder produced in a short time an ideal pleasure-ground. But it is not possible to breed all kinds of small and large ducklings and goslings without small and large hens for brooding the eggs and rearing the young. So it came to pass that before the beginning of the breeding season a whole collection of poultry was added to the water-fowl.

After this they consulted the editor of a well-known paper devoted to fancy as well as utility breeding. The third man's advice was to go in for one breed of poultry alone, and a too-long-neglected Belgian breed, the Antwerp Bearded Bantam, was ultimately selected. The three men met together twice in the same week; the following week they started a club. The artist breeder was the president, the teaching breeder the treasurer, and the literary breeder the secretary.

The Bearded Bantam Club had to make its breed popular and valuable; to make it known that that is the only Belgian Bantam retaining until now its original character of purity; that these hens are the best layers, considering the relation between the size and weight of the hen, the size and weight of each egg, and the total weight of the eggs laid in one year. Their elegant and distinctive external appearance, their beauty and diversity of plumage, give them the second position, the English Game Bantams, of which they are the exact counterpart, occupying the first. The Game Bantams are built on thin, long, hard, elegant lines; the Bearded

Bantams, the rose-combed, clean-legged Antwerps, as well as the single-combed, booted Uccles, are built on rounded, smooth, stately lines. These tiny little things are comfortable in the smallest poultry-houses, where larger breeds would be unhappy and become a charge to their owner.

It was found that of all the cocks, the dwarfs, especially the bearded ones, are the champions of the crowing matches. For a long period of time these little cock-crowing matches were the favourite sport of the working-people in the province of Liège and the Borinage. In the Flemish provinces, where are produced the best eggs for the North of France, the crowing contests are for Braekel cocks.

I have known a time when we judged the cocks after their crowing in the Rhine provinces, and the champion breed was the "Bergshe Kraaier," or "Elberfelder." These cocks are judged, not for the frequency of their crowing in half an hour, but for the long lasting of a single song and the greatest *portée* on the musical scale. This breed seems to be the original stock producer of the Spanish, Redcap, Mans, Barbegieux, Minorca, and other breeds whose hens lay big, white, smooth eggs. We know that cocks able to compete in a crowing match belong to a breed of precocious, active layers. This is the reason why the club decided to promote cock-crowing matches. It becomes possible to reduce the size of a breed without any loss of vitality as long as the cocks are able to hold their own in a crowing match.

The club advocates Bantam-breeding in workmen's houses on a small scale, in aviaries, the background of small yards or gardens. The children learn how to handle them kindly, and become initiated into the science of breeding. This education will become very useful when afterwards they have to establish themselves as farmers in their own country or in foreign settlements. The Bantam eggs, being under the required size for the market, are not sold by the poorest people, but given to the children, for whom that best and cheapest of all foods imparts the elements of physical vigour.

The cock-crowing matches make a salutary diversion for the over-tired working-man, a peaceful amusement

opposed to the cruel cock-fighting that is so commonly practised in Belgium, and ends too often in dangerous disputes. The whole family takes an equal interest in the work that breeding necessitates—the building-up of poultry-houses, the daily visits to the trap-nests, the feeding and cleaning, the preparation of the birds for a show, training and testing the cockerels for the crowing matches. Father, mother, each child has to perform their special work. These performances keep them better together, promote the family spirit, attach them more to the home, and infuse into all the respect of private ownership.

On January 24, 1904, *Chasse et Pêche* warmly recommended the foundation of the Club du Barbu Nain. The first meeting took place on February 7, when the new club began by affiliating itself to the Fédération Nationale des Sociétés d'Aviculture de Belgique. Its committee consisted of Messrs. Michel Van Gelder, president; Charles Buls, treasurer; Louis Vander-Snickt, secretary, to whom were joined as members Messrs. Alfred Herveard, Robert Pauwels, Paul Monsen, and Leopold Sas; Messrs. Léon Schellikins, president of the Fédération, and Ivan Braconier, president of the Union Avicole of Liège, honorary presidents. The first enterprise of the club was to offer prizes for a crowing match and a silver cup for the best collection of Bearded Bantams. Ten entries for that breed was an average number at the large Belgian shows. At the first show patronised by the club we had 75 entries, and 70 for the crowing match. A black-mottled Antwerp from Liège took the prize with 67 crows in half an hour. A special show, with crowing match, was held in Paris on October 21, 1904, and others in Maastricht (Holland). These matches became popular in different provinces of Belgium. People became so expert in training their birds that the old record of 154 crows in half an hour was beaten in a short time. Some succeeded in making their cocks crow 250 times. This would have been the end of the popular contests if the champions had not been excluded and the ordinary matches limited to 130 and 140 crows.

Another aim of the club is to teach the people how to associate flowers with Bantams and Bantams with flowers. Its special shows, instead of being in a more or less Agricultural Hall, were in a room furnished with carpets and divans, the ranges of bearded birds disposed according to their colour between assorted collections of flowers and green plants. The whole room was adorned to the roof with garlands of flowers. The first special show of the club brought together 350 Bearded Bantams—rose-combed, clean-legged Antwerps, single-combed, feather-legged Uccles, and a few Bearded Rumpless Everbergs. The second show was of 650, and the last, in the beginning of March, 1908, had 750 entries of Bearded Bantams competing for over 4,500 francs prizes (£160).

VARIETIES.—The Belgian fanciers of fifty years ago considered the cuckoo (coucou) plumage as typical for the Bearded Antwerp. These cuckoos produced black specimens, and some ten years ago M. Ivan Braconier

discovered a good pen of black mottles in Liège, and some white specimens with blue legs and black eyes had been known twenty years ago. The black cocks with red patches on the wings produced, with black hens, brown pullets that were called "cailles" (quail-coloured), resembling the colour of dark Dorking hens. They were destroyed as being incorrect. The president of the club fixed them, and they are now the most typical of the breed. He converted the Blues into a pure breed. Different breeders have obtained very typical Buffs with black extremities and other colours still unfixed. We have found traces of what seems to be a very old breed: the cocks are hen-feathered, yellow, with pheasant markings on the upper parts, red and black on the under parts; the hens are black-necked, grey on the back, nearly red on the breast. M. Van Gelder, after having studied Mendelism, obtained pure Antwerp Millefleurs in three years. Millefleurs (thousand flowers) is the plumage called "Jubilee" in England.

The Barbu d'Uccle is described in the old books as being the Bearded Booted Bantam imported from Bantam in Netherland. At that time the Dutchmen were the masters of the seas. They bred out the whiskers, beard, and mane, and the Bantam became their Sabelpoot. The breed was very common, especially on the East side of Belgium, some fifty years ago, but is much neglected now. We found the first perfect specimens in the collection of Madame Verstraite Delebart, at La Chapelle-en-Serval, France. M. Robert Pauwels and M. Michel Van Gelder each obtained a pen of them and saved the breed. They were perfect Millefleurs. M. Van Gelder found the Porcelaine the same, but with a silver-creamy ground colour instead of a golden one, and on each feather a round spangle, half white and half blue. The same is Caillouté (mottled) with black ground colour; also whites. All these different varieties of colours are quite pure bred in the thirty-six aviaries of M. Van Gelder's Castle at Zeecrabbe in Uccle. We have seen at the club's shows other plumages of Uccles, such as blacks, white-bearded blacks, blues, but of which one cannot yet say they breed regularly true.

Another curiosity at the last show of the Bearded Bantam Club was due to M. Pauwels, who is breeding rumpless all the before-named Antwerps and Uccles. The club was invited some weeks ago to visit his curious and interesting breeding-farm. It is worth a special illustrated description.

M. Michel Van Gelder has now left the Villa Betsy, and removed to the much larger castle at Zeecrabbe, situated in a corner where vegetation is most luxuriant, with a profusion of selected flowers. On the piece of water is one of the richest collections of ornamental water-fowl. Higher up, at one side of the habitation, making a hedge to a park of scintillating cannas and begonias, are rustic aviaries with the most brightly feathered pheasants, an immense aviary for singing birds and white peafowls, a loft of carneau pigeons (all show birds), the kitchen and brood-house, and then the long row of Bearded Bantams. No other

club has progressed so much in so short a time, or been conducted on such lines of science and beauty. Its president set out to breed in one year 1,000 Bearded Bantams, every one being ringed the moment it came out of the shell. The number of each ring indicates the name of the father and the mother, the colour of the down (duvet) of the new-born chick, the colour of the first plumage; then the first ring is changed for the definite ring of the *Fédération Nationale* (F.A.B., 1908, No. ?), receives a name, and is entered in the private stud-book of the club, and after having won prizes is entered in the stud-book of the *Fédération Nationale*.

The most striking feature of Zeecrabbe is that all the birds live as much at liberty as possible. These birds, even the ducks and geese, who have before lived in a wild state, when bathing in the sun will not even move for dogs and children, not even before a strange visitor. If Villa Betsy was a little Paradise, Zeecrabbe has become an enlarged one, justifying the motto of the club, "Humanité, Utilité, Publique Sport."

AMERICAN NOTES AND NEWS.

BY OUR OWN CORRESPONDENT.

Open-Front Poultry-Houses.

The "open-front" or "curtain-front" style of poultry-house is becoming very popular with American poultrymen even in the coldest latitudes. The East has taken to this style of house much more quickly than the West, but the results have been universally so good that it will not be long before every poultry-house in the United States is practically on this build. We do not know who first proposed the fresh-air method of poultry-keeping, but it is only since the opening of the present century that it has come into general use in this country. There is one large plant in New Jersey on which several thousand White Leghorns are kept for laying purposes, and where the houses are built with one-third of the front elevation open; and possibly better results are obtained from the birds in this house than in any other that we know of. The past year this breeder averaged a fraction over 143 eggs per hen. Not a bird had a cold, nor was there a single frosted comb. The temperature on several nights went below zero. It should be stated, however, that these houses are made absolutely tight at the back and sides, and great care is exercised in their construction to prevent draughts from striking the fowls. The Philo system, which is becoming wonderfully popular, especially in the cities and towns, is in every sense a fresh-air system, the air being allowed to come in at the top of the "boxes" instead of at the front. Many of the poultry plants leave the fronts entirely open, and the results obtained are in every way much more satisfactory than in the closed houses, even when the scratching-shed is used in connection therewith.

Eggs Scarce and Prices High.

Eggs have been exceptionally scarce this season, and although the May movement is considerably larger than

last year, the demand is such that there is still a considerable shortage, and the cold storage men are finding difficulty in filling their warehouses. All this has had the result of keeping the quotations at top-notch prices, storage packings bringing from 22 cents to 24 cents a dozen during May on the New York market. The high prices for eggs this spring have resulted in a considerable addition to the poultry flocks by spring hatching, an unusually large number of incubators having been sold this season. One New York State manufacturer reports selling over 20,000 incubators as compared with less than 5,000 a year ago. This machine was one of the cheaper makes. The builders of higher-grade machines also report a trade considerably above the normal. This addition to the poultry flocks of the country, which is estimated at about 25 per cent., will make a good deal of difference to the egg supply next winter, but poultrymen are sure of very high prices for their egg product for another twelve months at least.

Poultry Also.

On Monday, May 10, frozen poultry sold at 17 cents a pound, and this price was maintained for an entire week. This is the highest price ever paid for this grade of poultry on the American market. The cause for this high price was the almost complete cessation of the supply of fresh-killed fowls since the middle of last February and the many new outlets which have been created of late for poultry. The export shipments to the Atlantic seaboard were heavy for the last two months, while the outlet to the Gulf markets and Cuba is continuous. Broilers are extremely scarce, and are sold as high as 50 cents a pound, although the price rules at about 40 cents.

THE UNITED STATES DEPARTMENT OF AGRICULTURE.

THE office of Experiment Stations of the Department of Agriculture at Washington, D.C., has undertaken the preparation of a series of illustrated lectures upon rural topics, for use by farmers' institute lecturers and teachers of agriculture in schools and colleges. Each lecture is accompanied by forty or fifty photographic slides illustrating its prominent features. The only charge made is for carriage of the slides from and to Washington. We have just received the syllabus of one of these lectures—namely, that on the production and marketing of eggs and fowls, written by Mr. James Dryden, Professor of Poultry and Husbandry, Oregon Agricultural College, Corvallis (Oreg.). The lecture is divided into: Uses of eggs, quality and size of eggs, breeds and laying capacity, renewing the flock, housing of fowls, the colony house, the stationary house, the feeding of fowls, incubation, brooding, feeding chickens, fattening chickens, caponising, marketing the produce, and insect pests; and in all there are forty-four views illustrating these subjects.



A Laying Competition Incident.

Fortunately we appear to have escaped any protests at the laying competitions in the Homeland, but in New Zealand a strange complication recently arose, which happily was settled. Mr. E. B. Merritt entered some of his "Rector" Leghorn stock, as advertised in the ILLUSTRATED POULTRY RECORD, which won a prize. Rumours were afloat that these were not from imported birds, and the committee of the Lincoln College Competition asked for proofs before they paid over the money. Mr. Merritt was able to show the original invoice and to offer other evidence as to his *bona fides*, which satisfied the committee. This incident raises an important question—namely, is the prize awarded for the performance of the hens or not? Much depends upon the regulations. The mere name is nothing—a means of advertisement.* If a proviso is included that competing birds must be bred by the owner, then inquiries are requisite. What their origin is does not appear to come into consideration.

Rearing Problems.

From all accounts very serious questions present themselves to American poultry-men, more especially as to rearing difficulties and infantile diseases in chickens. We give the following extract from an address by Mr. T. F. McGrew before the Poultry Institute, Guelph, which is serious in the extreme :

If I had been asked [says Mr. McGrew] one year ago to tell this class how to rear a thousand chicks or more upon a farm, I would have told them to rear by artificial means ; if I were myself contemplating such a proposition at this time I would attempt to hatch and rear the greater part of the chicks with mother hens. The appalling conditions which confront us on every side in the lack of vitality in the producing stock, eggs and chicks, prompts me to ask loud and strong for the cause of this quick decline of reproducing power. Not having positive assurance as to the cause of this trouble, I can only say that it does not exist when the chicks are hatched by hens from

hens that have continual freedom. Where the colony system has been properly applied for any length of time, and the chicks are reared in the natural way, there is a most noticeable absence of anemic chicks and lack of vitality is almost an unknown quantity. During the past year I have seen thousands of eggs from yarded hens fail to produce a living chick.

Prices of Eggs in South Australia.

Improved methods necessary to an export trade have in several cases led to a better home demand. Such was the result in Canada, and the same story is repeated from South Australia, whence at one time it appeared that large shipments of eggs would be made to Britain, as those already received were landed in excellent condition and sold well. The *Journal of Agriculture of South Australia* tells the story thus :

Last year (1908) complete arrangements were made for several shipments of eggs, but the prices ranged higher than ever, and market reports were saturated with references to strong demand from other (Australian) States. In the face of local prices, which in our previous experience left practically no margin, it was futile to attempt inducing friendly co-operation among the many merchants who are prepared to assist. Finally, it was decided to purchase and ship some eggs, and, although nothing was said on the matter, the price went up with a jump.

Canadian Combination.

The statement given on the next page as to the Poultry Producers' Association of Eastern Canada is important, and we congratulate the promoters on making this forward step, which, we hope, will be copied in other provinces of the Dominion. Poultry clubs are plentiful on the other side of the Atlantic, but, as was the case in the Old Country at first, these are composed of enthusiastic fanciers and exhibitors, whose interest in the practical side of the poultry industry was indirect rather than direct. This new Association, to which we wish every success, and the National Poultry Association, recently formed in the United States, are signs of the times.

Poultry Producers' Association of Eastern Canada.

Though the production of poultry and eggs has greatly increased during the past few years, the system of gathering and marketing has not materially improved. The prices paid by the consumers have been gradually advancing, but the net returns to the producers have not been correspondingly satisfactory. This is largely due to the high cost of commissions and transportation, which may be considerably lessened by co-operation.

The Poultry Producers' Association has been formed for this purpose, but it can accomplish little without the assistance of those interested in the production of good poultry and eggs. To secure the best prices, eggs must be put on the market perfectly fresh; dressed poultry should have both quality and uniformity, and only by system and co-operation can this be accomplished. The Association wishes to do for poultry-men of Canada what similar societies have done for the poultry industry in Denmark and Great Britain.

For the present it is not intended that the Association shall buy and sell, though a central depot may come later. In the meantime, the work will be to gain strength, organise branches, keep the buyers in touch with the members, and establish uniform standards of marketable products.

The Association was formed at Macdonald College on April 9, when the following officers were elected: Hon. president, Dr. J. W. Robertson, Macdonald College; hon. vice-president, Professor A. G. Gilbert, Ottawa; president, Mr. A. P. Hillhouse, Boudville; first vice-president, Brother Liguori, La Trappe; second vice-president, Mr. Peter White, Pembroke; auditors, Messrs. J. F. O'Hara and T. F. Ward, Macdonald College; secretary-treasurer, F. C. Elford, Macdonald College; executive committee, Messrs. L. T. Ogilvie, Brockville; L. P. Shortall, Washburn; A. G. Taylor, Dewittville; J. G. Morgan, Stanbridge; George Robertson, Ottawa; E. A. Chapman, Emileville; James A. Cochrane, Lennoxville; K. Fisk, Florenceville, N.B.; H. E. Baird, Macdonald College.

Much interest has been taken in the Association by both producers and consumers, many of whom have promised their membership and support. The secretary will be glad to enroll as members all interested in seeing the poultry industry made more profitable to the producer and more satisfactory to the consumer.

The fee of \$1.00 makes one a member until September 30, 1910, and may be handed to any of the officers or mailed to F. C. Elford, secretary-treasurer, Macdonald College, Quebec.

New Zealand Poultry at Shepherd's Bush.

The *New Zealand Poultry Journal* says that:

A number of cases of dressed poultry were dispatched to Wellington on Saturday from the Government Poultry Depot in Bath-street, en route to the London Exhibition at Shepherd's Bush. They were neatly packed, and the selection was one that will be hard to beat, all the birds being of excellent quality. The shipment comprises goslings and ducklings, bred by Mr. Burley at the Spreydon Poultry Farm, and fowls from

the Government Farm at Burnham. The particulars of the consignment are as follows: Six goslings, weight 51lb.; 12 Black Orpingtons, weight 60lb., one bird weighing 6½lb., and the birds being five months old; 12 ducklings, weight 59lb.; 12 White Leghorn chickens three months old, weight 26lb.; 12 White Wyandottes, weight 59lb.; 6 Houdan chickens, weight 22lb.; and 12 Plymouth Rocks, weight 53lb.

Visitors to the White City should look out for this exhibit, showing the enterprise of Colonial breeders.

Club-Room at Durban.

The Durban and Coast Poultry Club has started a Club-Room at 20, Castle-arcade, Durban, Natal, for the use of its members, which will be open every day from 9 a.m. to 5 p.m., and on Wednesday and Saturday evenings. By such a commendable arrangement it is felt that this intercourse will keep members thoroughly in touch with what is happening in the local feathered world, and so maintain enthusiasm all the year round. The interchange of opinions that will take place can only act beneficially to poultry-breeders. The current numbers of the majority of the English, American, Australian, and South African poultry and pigeon papers, as well as files for twelve months back, are also on view, and any member with time on his hands will be able to pass an hour or so profitably among the literature provided.

Potchefstroom, Transvaal.

A large and highly successful Poultry Exhibition was held at this centre in May, and was opened by Mr. J. B. Smith, Director of Agriculture to the Transvaal Government, who, in the course of his remarks, deplored the fact that the Agricultural Society of Potchefstroom had not been able to hold a show this year. In every direction an advance was recorded, and it behoved this district, as one of the agricultural capitals of the country, to keep pace with other places. He appealed for a spirit of co-operation and sympathy between farmers and townspeople, so that the reproach of having no Agricultural Show should be removed. The Poultry Club deserved the highest credit for coming into the breach and providing such a splendid show.

Marketing in Canada.

The value of an international exchange of ideas, not only to visitors but also to visited, is very great indeed, and the more of it we can get the better. Professor W. R. Graham, writing in the *Canadian Poultry Review*, says:

During the last ten days or two weeks we have had call on us three people from foreign countries, who are sent out to America by their respective Governments to study agriculture—poultry in particular. I have taken some pains to inquire into their methods of putting eggs on the market as well as dressed poultry, and it appears to me that if Canada is going to compete with Denmark, Hungary, and Russia in the English market we must sooner or later come to adopt a general system of co-operation or some other scheme whereby we can guarantee our goods to be so many days old, with no bad ones, and also where a bad one does happen to

appear it can be traced to the producer, and a five-dollar fine for marketing one bad egg makes one think twice before two are sent.

Indian Methods of Poultry-Keeping.

We have in previous issues published some particulars of poultry breeds and breeding in the great dependency (see pages 50, 119, and 221). The other day we were looking over Mr. Isa Tweed's book entitled "Poultry-Keeping in India," when we came across some information which is worthy of reproduction, and applicable elsewhere :

In India [says Mr. Tweed, p. 44] there has been a decided awakening in favour of poultry-breeding, and a great many people among Government officials, planters, railway employees, and missionaries have taken a kindly interest in our feathered friends, and the prospects for the welfare of poultry in India are to-day brighter than they ever were before. Nevertheless, there is still a great deal of ignorance about the different breeds of fowls, and their economic value, and their proper breeding and care. We shall do our best to assist people to a proper knowledge of these things and help them to success.

In the first place we will consider the value of the best breeds of fowls found in India. There are really only two pure breeds of fowls indigenous to India. The first is the Chittagong breed and the other is the Aseel. There is a large number of fowls of different sizes, shapes, and colours to be found all over India. These are for the most part very much like the jungle fowl. Their size and shape vary according to the locality in which they have been raised and the care with which they have been bred; some of them have Chittagong, Aseel, Dorking, or Cochin blood infused into them, and are better in size and quality than the common ones.

The common Indian *moorgi* as found in all parts of this country is of very little value as a layer or table bird. Those that have been produced by a cross with the Chittagong and Aseel are larger birds and better layers, and find a good market in Calcutta and other cities and towns in India. A cross between the Chittagong cock and the common hen will produce very fair table birds, and a cross between the Langshan cock and the common hen will produce very fair layers. I have seen some birds that were produced by a cross between the Chittagong cock and the common hen, and the pullets of this cross and the Langshan cock. They were of good shape and size and laid very well, some of them weighed 6lb. alive. A great deal can be done by Government officials, planters, and missionaries to improve the common village fowl. A great deal of time and labour is needed to attain success in this matter. In the first place, the village people must be persuaded to get rid of *all* their common cock birds and sell off all the common cockerels before the birds are three months old, and keep only the largest and best among their hens and pullets. Then, in the second place, large numbers of medium-sized Chittagong and Langshan cockerels, between six and eight months old, must be distributed among the villagers. Then, again, the next year all the cross-bred cockerels and cocks and the common hens must be removed, and only the cross-bred pullets allowed to remain. These cross-bred pullets should be allowed to run with the pure-bred Chittagong or Langshan cocks. The third year all the cross-bred cockerels and the hens of the first cross should be removed, and only the best pullets of the second cross allowed to remain. These pullets must be allowed to run with the pure-bred Chittagong or Langshan cocks. Every second year the

pure-bred cocks should be changed and new ones put in their place. By working on these lines, in six years the characteristics of the fowls in the village will be greatly changed. They will be large, hardy, and good layers of large eggs, and will sell for more than double the money that could be got for the small common fowls. In six years these improved fowls will be very much like the pure breeds in size and shape. The initial cost of working this plan is not much. It does not need money so much as work and perseverance.

THE NEW ZEALAND POULTRY JOURNAL INSTITUTE.

By J. B. MERRETT,

Editor "*New Zealand Poultry Journal*."

THE New Zealand Poultry Journal Institute was established in Christchurch in 1907. It was founded by the editor of the *Poultry Journal* for the express purpose of experimental work. The Institute consists of eight and a half acres of beautiful land, situated in one of the most popular suburbs of the city. This advantage has resulted in thousands of visitors each year, who go to view the poultry and learn important lessons on poultry culture. There are two artesian wells that furnish fresh water all over the farm, and, as special troughs are laid down, the laborious work of watering is done automatically. The birds have access at all times to an abundance of fresh water, and relish this provision as much as their food. Beautiful willows and ornamental shrubs surround the Institute, affording shelter and shade. One portion of the ground is set aside for ducks, and at present a Duck Egg-Laying Competition is being conducted, in which there are twenty-four pens, each containing six birds. Most of the birds are Indian Runners, and it is expected that excellent records will be established. For the benefit of the RECORD readers these returns will be forwarded regularly, so that the value of these birds may be known. The duck section of the Institute is managed by Mr. A. W. Merrett, who devotes his time to the rearing of the ducklings and attends to the layers. The brooder-house is 80ft. by 16ft., and is fitted with the most modern improvements. The incubator-room has capacity for 3,000 eggs. At the competition the duck-pens are 60ft. by 6ft., and each pen of birds has a continuous shed 6ft. by 4ft. for shelter. The water-trough is 12ft. by 7ft., and each side for several feet is covered with cinders, the one side to prevent the ducks making mud-holes in the pens and the other for visitors to walk on. The competition was opened on April 1 by the Mayor of Christchurch. The ducks have now gone into a moult, but will be ready for business by the beginning of May. Green feed is grown for the ducks in the form of lucerne, clover, rape, and cabbage; as much as possible of one of these is given for the ration. Livers are boiled, and the mash is made from the soup obtained. It is expected that several of the pens will put up a record of over 200 eggs per bird. There is no place in New Zealand that interests the

student of poultry culture like the Institute. The flock of 600 White Leghorns have been bred largely from a pen of "Rector" birds imported from California in 1906. Mated with some of the best blood in Australasia, these birds have been bred and selected into a splendid flock. At the Lincoln College competition just completed two pens of "Rectors," containing 12 birds, put up the magnificent total of 2,435 eggs in 50 weeks. The aim of the Institute is to breed birds of a uniform size representing the English more than the American standard. A system of selection is adopted that has proved highly successful. It is not so much the purpose

breeders are accommodated in pens of ten pullets to one cockerel. The houses are chiefly open-fronted, and are built so that the number of hens in each pen may have ample scratching-space for wet days. The dropping-boards are cleaned every morning, and every care is taken that cleanliness shall be the first law of order at the Institute. The machine-room is fitted with a gas-engine, meat-mincer, gritters, bone-cutters, &c., for the preparation of the foods. The mashes are fed dry, and contain a good percentage of animal food. The large brooder-house is 74ft. by 16ft., and is considered one of the best in the Dominion. A specially designed venti-



BREEDING-PENS AT THE NEW ZEALAND POULTRY JOURNAL INSTITUTE.

of the Institute to produce individual birds that attain high records as a flock of birds each of which has to do its 200 eggs. To strive after a higher average is to sacrifice the stamina, ruin the constitution, and destroy the vitality so essential to continuous success in poultry culture. The Institute is designed with a view to save labour. The water runs through every pen in a specially designed trough. In feeding and cleaning the attendant can pass through all the pens without going through one gate twice. There are 32 pens. The larger accommodate the layers, the smaller the breeding-pens. The layers are divided into pens of 40. The

latter in the roof assures an abundance of fresh air for the chickens. But we will reserve our methods of chicken-rearing for another article. The Institute is visited by poultrymen from all over Australasia. The experiments carried out have been given in the *New Zealand Poultry Journal*, and have been of great value to poultrymen. During the winter classes are to be held at which students will receive practical instruction in poultry culture. We believe that the Institute has a great future before it, and will do much towards the development of the poultry industry in the Dominion of New Zealand.

THE MARKETS & MARKETING

CONDUCTED BY    VERNY CARTER

Market Reports, Week Ending June 26.

Although the season during which poultry realises its highest values was passing away, there was still a very large demand for birds of good quality, and traders were inquiring as to where further supplies were to be obtained. Aylesbury ducklings, taking into account the excellence of their quality, were cheap. Owing to the cold, damp weather they had hardly been so large this season as in former years. English chickens were arriving more freely and were better in size. Foreign frozen poultry was meeting with a very poor demand, and prices were generally much lower, excepting the best American birds, which were selling well. Continental eggs altered but little from the previous week, the tendency being towards cheapening, as the season for pickling was all but over. The demand for English eggs was far in advance of supply, and values had never ruled higher at this period of the year.

Week Ending July 3.

Trade during the week had been fair, the supplies of English chickens improving and meeting with a good demand at fair prices. As had been the case for some time, cheap frozen poultry was selling slowly and causing uneasiness among the dealers in this class of produce. It is becoming more and more the practice for salesmen to purchase foreign poultry outright in the countries of origin, and not to sell so much on commission; hence their anxiety as to the slackening of demand, for there seemed to be good reason for believing that larger quantities than usual would have to be held over till the winter, as in a few weeks grouse would be coming in, and with the advent of September game would be in full swing. Foreign eggs were more plentiful; especially was this the case with the cheaper qualities, and, although nominal prices had not altered very much, actual values were down. As was the case in the previous week, the demand for best English eggs was greater than the supply. Consequently values were well maintained.

Week Ending July 10.

Very little change had taken place. English poultry was inclined to be cheaper. Although the minimum and

maximum prices showed no change, larger quantities of poultry changed hands at moderate prices. However, birds of first-rate quality commanded good values. Continental eggs remained the same as before, as was also the case with English.

Week Ending July 17.

English chickens were more plentiful and of good size, realising reasonable values. Aylesbury ducklings very cheap and of very excellent quality, very few goslings coming to hand; asparagus chickens and Poussins meeting with fair demand. The values of Continental eggs firmer, prices rising by threepence per 120 all round; English eggs getting very scarce, values remaining the same as the previous week.

Foreign Imports of Eggs.

The imports under this heading for the month of June were greater than for the corresponding period of the past two years, and exceeded those of June, 1908, by 734,207 great hundreds. The countries to be credited with increase of quantities were Russia, with 714,328 great hundreds; France, with 43,805 great hundreds; Germany, with 3,856 great hundreds; as well as an increase of 55,663 great hundreds from various countries placed in the Trade and Navigation Returns under the heading of "Other Countries"; whilst Denmark showed a falling-off in quantities of 50,440 great hundreds, Italy of 13,981, and Austria-Hungary of 9,039 great hundreds. Despite the above increases, the shortage of foreign eggs sent to this country during the first six months of this year amounted to 518,728 great hundreds, as compared with the corresponding period of 1908. The total quantity received for the six months was 7,772,589 great hundreds, as compared with 8,291,317 great hundreds.

Northern Markets.

London has the largest and most important markets in England, probably in the world, and the demand is so enormous that there is practically no limit to the poultry produce that they are open to receive from home or abroad, provided that the produce is of the very best quality. In season or out of season, London is the great centre both for epicurean delicacies and necessities.

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS FOR THE FOUR WEEKS ENDED JULY 17, 1909.

ENGLISH POULTRY—LONDON MARKETS.

DESCRIPTION.	PRICES REALISED DURING THE MONTH.			
	1st Week.	2nd Week.	3rd Week.	4th Week.
Surrey Chickens	3/0 to 5/6	3/0 to 5/6	2/9 to 5/6	2/9 to 5/0
Sussex "	3/0 " 5/6	3/0 " 5/6	2/9 " 5/6	2/9 " 5/0
Yorkshire "	2/0 " 4/0	2/0 " 4/0	2/0 " 4/0	2/0 " 4/0
Boston "	2/0 " 4/0	2/0 " 4/0	2/0 " 4/0	2/0 " 4/0
Essex "	2/0 " 4/0	2/0 " 4/0	1/9 " 4/0	2/0 " 4/0
Poussins	1/2 " 1/4	1/4 " 1/8	1/6 " 1/9	1/6 " 1/9
Irish Chickens	1/9 " 3/0	2/0 " 3/3	2/0 " 3/3	1/9 " 3/3
Live Hens.....	1/9 " 2/3	1/6 " 2/3	1/6 " 2/3	1/6 " 2/3
Aylesbury Ducklings.	2/9 " 4/0	2/6 " 4/0	2/6 " 3/9	2/6 " 3/9
Ducks	2/6 " 3/6	2/6 " 3/6	2/0 " 3/6	2/6 " 3/6
Geese.....	5/6 " 7/6	5/6 " 7/6	5/0 " 7/6	5/6 " 7/6
Guinea Fowls	2/9 " 3/0	2/9 " 3/3	2/9 " 3/3	2/9 " 3/3
Spring Chickens	1/9 " 2/3	1/9 " 3/0	1/9 " 3/0	1/9 " 3/0

ENGLISH GAME—LONDON MARKETS.

DESCRIPTION.	Each.	Each.	Each.	Each.
Grouse	— to —	— to —	— to —	— to —
Partridges.....	—	—	—	—
Pheasants	—	—	—	—
Black Game	—	—	—	—
Hares	—	—	—	—
Rabbits, Tame	1/3 " 2/6	1/3 " 2/6	—	—
" Wild	—	—	—	—
Pigeons, Tame	—	—	—	—
" Wild	—	—	—	—
Wild Duck	—	—	—	—
Woodcock	—	—	—	—
Snipe.....	—	—	—	—
Plover	—	—	—	—

ENGLISH EGGS.

MARKETS.	Per 120.	Per 120.	Per 120.	Per 120.
LONDON	9/6 to 10/10	9/9 to 11/-	10/- to 11/3	10/- to 11/6
Provinces.	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-
MANCHESTER ...	10 to 13	10 to 13	11 to 13	10 to 13
BRISTOL	11 to 11½	11 to 11½	11 to 11½	11 to 11½
	per doz.	per doz.	per doz.	per doz.

FOREIGN POULTRY—LONDON MARKETS.

COUNTRIES OF ORIGIN.	PRICES REALISED DURING THE MONTH.			
	Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. Per lb.
Russia	1/0 to 2/6	—	—	—
Belgium	—	—	—	—
France	—	—	—	—
United States of America	2/3 to 3/6	—	—	—
Austria	—	—	—	—
Canada	—	—	—	—
Australia	—	—	—	—

IMPORTS OF POULTRY AND GAME. MONTH ENDED JUNE 30, '09.

COUNTRIES OF ORIGIN.	DECLARED VALUES.	
	Game.	Poultry.
Russia	£570	£3,000
Belgium	—	—
France	39	4,008
United States of America	—	9,803
Other Countries	703	5,366
Totals	£1,312	£23,077

IRISH EGGS.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.
	Per 120.	Per 120.	Per 120.	Per 120.
Irish Eggs	7/6 to 8/2	7/6 to 8/6	7/6 to 8/4	7/6 to 8/4

FOREIGN EGGS.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.
	Per 120.	Per 120.	Per 120.	Per 120.
French ...	8/9 to 10/0	9/0 to 10/6	9/0 to 10/3	9/3 to 10/6
Danish ...	8/0 " 9/6	8/0 " 9/6	8/0 " 9/6	8/6 " 10/0
Italian ...	7/9 " 9/3	7/9 " 9/3	7/9 " 9/3	8/6 " 9/6
Austrian...	6/3 " 7/6	6/6 " 7/6	6/6 " 7/6	6/3 " 7/6
Russian ...	6/0 " 7/0	6/0 " 7/0	6/0 " 7/0	6/6 " 7/3
Australian..	—	—	—	—
Canadian..	—	—	—	—

IMPORTS OF EGGS. MONTH ENDED JUNE 30, '09.

COUNTRIES OF ORIGIN.	DECLARED VALUES.	
	Quantities in Gt. Hund.	Declared Values.
Russia	1,699,060	£552,986
Denmark	300,922	122,104
Germany	20,730	6,951
Italy	63,551	26,953
France	138,330	54,654
Canada	15	7
Austria-Hungary	33,125	12,730
Other Countries	140,735	55,713
Totals.....	2,396,468	£832,098

The reports we read month by month in the ILLUSTRATED POULTRY RECORD show very clearly the prices realised by various seasonable produce, and this is decidedly interesting both to buyer and to seller. At the same time, it may be equally interesting to compare prices between the London and some provincial markets. Few, if any, Surrey or Sussex fowls reach the Northern markets, there being only a small demand, consisting principally of a few standing orders to supply a certain number weekly, which are obtained through some of the leading poulterers, who in turn get them from London. Chickens produced in Yorkshire and Lincolnshire have realised as much as 5s. each, but 4s. 6d. is quite a common price in June for spring chickens, and some of the best specimens, whilst not, perhaps, equal to those prepared in Surrey, would certainly not be disgraced by comparison.

Ducklings are distinctly poor, and are dear at the price—namely, 3s. and 3s. 3d. each. They lack the finishing touch in their preparation which is such a great feature in those from counties famous for this business.

Russian chickens, during June, have been very plentiful, the prices ranging from 1s. 3d. to 1s. 9d. each; whilst those from the United States of America have been readily sold for 2s. 9d. and 3s. each.

English eggs are becoming somewhat scarce, and find a ready sale at ten for 1s. Danish eggs are in great demand in the Northern Counties, the price quoted being 7s. 6d. and 8s. per 120. Pheasant eggs, at the beginning of June, have sold, as a breakfast delicacy, at 2s. 9d. per dozen. It will thus be seen that prices for poultry produce compare favourably with those quoted in the London markets.

THE CLEANLINESS OF AN EGG. ITS IMPORTANCE REALISED BY OUR FOREIGN COMPETITORS.

EVERY foreign merchant who imports eggs to this country fully realises the importance of marketing them in as cleanly a condition as possible. To find a dirty one in a case of Danish eggs would be the exception. Even in the case of Austrian and Styrian eggs, which are among the cheapest brands sent to this country, a study is made of cleanliness, if only for appearances' sake. To such an extent is appearance studied by our foreign rivals that not only do they study cleanliness, but even go so far as to take pains to arrange the brown eggs in some set pattern or device in the centre of the layers in order to make them appear more attractive to the eye; and, after all, they are quite right, for appearances are much thought of in these modern times.

If cleanliness is important to the appearance of an egg, how much more so is it from the hygienic point of view. An egg, like milk, is very apt to absorb flavour and impurities from objects with which it comes in contact—fish, onions, in fact, anything that has a strong flavour or odour, if brought into contact with eggs, will

taint them and render them objectionable to the palate. That eggs are susceptible in this manner is amply proved by the way they are rendered almost uneatable after being packed for a short time in damp straw. The most repulsive dirty eggs are those the dirt of which is caused through fouled nests. It is most difficult at times, when the weather is wet and the poultry-runs and farmyards are muddy, to prevent eggs from getting soiled. If during such times the eggs are gathered up more frequently than usual and wiped clean at once instead of leaving them for the dirt to dry on them, but little harm will have come to them.

At any time, especially during hot weather, avoid washing eggs as much as possible. When washing has to be resorted to, the eggs should not be placed in water, as the shells absorb a considerable amount of moisture which, coming into contact with the inner membrane, is likely to cause deterioration of the contents to take place more rapidly than otherwise would be the case. Eggs should be wiped over with a damp cloth, care being taken that the latter is thoroughly sweet and clean. Many people add a little household vinegar to the water with which they damp the cloth, the acetic acid in the vinegar acting as a preservative for the water and as an antiseptic. But "prevention is better than cure," and poultry-keepers should adopt all the preventive methods they can devise to obviate the necessity of washing eggs.

In the past Irish poultry-keepers have lost large sums of money annually through neglecting this important point. It is impossible, of course, to estimate the sum of money which has been lost annually to Irish producers through marketing their eggs in a dirty condition, but undoubtedly it has been a very large one. However, it is gratifying to learn through that excellent paper the *Irish Farming World*, May 28 issue, that serious attention is now being given to marketing Irish eggs in a clean condition. In a short article entitled "Clean Eggs Sell Well" it says, in discussing the Irish egg trade at the Grocers' Exhibition held at Bristol the previous week:

Mr. James Harper, of the Department of Agriculture for Ireland, mentioned that an association had been formed by the leading shippers of eggs—some fifty in number—in the North-West of Ireland, and that they had issued a circular, signed by all its members, stating that in order to protect and foster the Irish egg trade, the undersigned dealers are compelled to give notice that, on and after February, 1909, they will refuse to purchase soiled and dirty eggs. It is possible that later on this year this association will issue a further notice refusing to purchase any eggs that are not absolutely fresh. This action on the part of the traders has already had a good effect—the eggs have visibly improved, and prices, since the notice has been in force, have been considerably higher. It is reported that other districts of Ireland are preparing to follow this good example.

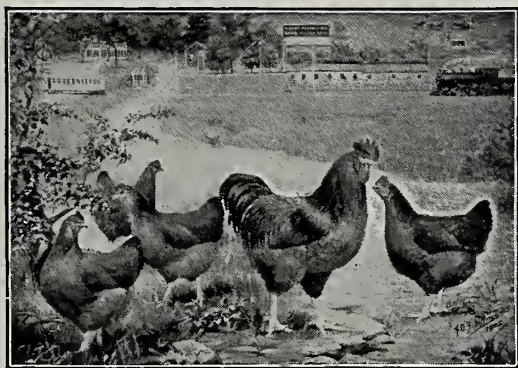
It is to be sincerely hoped that the whole of Ireland will adopt this wise course, for great good is sure to accrue therefrom. In conclusion we should like to urge on poultry-keepers the importance of the three cardinal qualities necessary to an egg if it is to realise its full measure of value. They are freshness, cleanliness, and size.



ROSE-COMBED RHODE ISLAND REDS.

TO give the poultry fraternity of England an opportunity of realising the inside workings of one of the leading standard breed poultry-farms of the United States, I have here set forth my personal experience of one day spent on the De

Grass Poultry-Farm, Amsterdam, N.Y., among the famous De Grass Vitality Rhode Island Reds, as bred by Edward T. De Grass, an acknow-



PEN OF PRIZE REDS. BRED BY MR. DE GRASS.
Part of the farm is seen in the background.

Grass Poultry-Farm, Amsterdam, N.Y., among the famous De Grass Vitality Rhode Island Reds, as bred by Edward T. De Grass, an acknow-

ledged authority on all subjects pertaining to Reds. There are several extremely interesting points about this farm and its owner and manager that are worthy of special mention, the latter being in some ways the leaders in their line for the whole poultry fraternity.

Mr. De Grass issues an annual catalogue, which not only gives a full account of his farm and his stock of eggs for sale, but contains a great amount of practical information to all poultry-raisers. It is profusely illustrated with some of the finest pictures possible to obtain, besides large pictures of both breeds of Reds in true colours. It contains three pictures in true colours by three different processes. No poultry-raiser can afford to be without it. Judge De Grass was highly complimented last year by being selected to take charge of the "School for Judges" at Springfield, Ill., held under the management of the National Single Comb Rhode Island Red Club. Much good has resulted from the school that will be of vital importance to the breed in after years.



DE GRAFF POULTRY FARM, AMSTERDAM, N.Y.

De Graff's flock is acknowledged to be one of the finest flocks of Reds in the world. The fowls on this farm, and the branch farm under his personal management, will give him the selection of 5,000 high-grade Reds for this autumn's business, which, considering the unprecedented popularity of this breed, will put him in a position to fill any and all orders that may come from his systematic advertising. De Graff's style of advertising, like everything he does, is original, and attracts attention on its merits.

Knowing all these facts, I was more than pleased when I stepped off the electric cars at the private station, close to the farm, and found the proprietor at home, and everything looking most prosperous and attractive. This farm is very favourably located on the north side of the beautiful Mohawk Valley on a gradual slope to the south, well covered with all kinds of fruit-trees. My personal inspection discovered fifty-five individual breeding-pens of Reds all housed separately and securely yarded, and there were none that I could class particularly as utility stock, since all seemed to be high grade, and would not look out of place in any exhibition. Mr. De Graff introduced me to many of his famous winners at the leading shows of America. I soon began to think I knew a good Red when I saw one, and a most beautiful breed they are when bred of the right colour. I was much interested in his famous cock "Amsterdam." He

had, I heard, proved to be a wonderful breeder, and his picture, which is familiar to every fancier of Reds, is considered by Mr. De Graff to be nearer the accepted ideal than the standard drawings themselves, while his colour is a wonderful brilliant shade of rich dark red. Money could not buy this male, as Mr. De Graff is establishing a strain from him that will be invaluable.

Nearly 1,000dols.' worth of eggs for hatching have been sold from his pen at 1 dol. each, and he is still in perfect health.

Although the Reds are a comparatively new breed in England, this day's experience converted me to an enthusiastic Red fancier. Mr. De Graff can show dozens of males with that rich dark red surface harmonising in all sections, that is considered so hard to get right; and the pullets match the breast of the male, and have one even shade all over, with black tail and markings in the wings. He prefers the dark red birds to the buffs, and visitors all tell him he has the finest coloured flock of Reds they have ever seen anywhere. Many breeders have lost sight of type in breeding for colour, but he places type and



MR. DE GRAFF AND HIS SON JOHN.

vitality first, and the true oblong type, which is one of the strongest characteristics of this breed, is plainly noticeable in all his breeders, while the young stock show exceptionally long bodies with strong yellow legs, making chicks that will grow up if given half a chance. The chicks become the greatest of foragers as they mature, are very



DE GRAFF POULTRY FARM, AMSTERDAM N.Y.

early layers, and the males are very vigorous at all seasons of the year. Although Mr. De Graff has tried all the leading makes of incubators, he hatches all his own chicks by hens. He raises them under the most favourable conditions possible. There is running water in all houses and chick fields, and protection from sun and wind is afforded by large flower-beds of cannas, sunflowers, and castor-oil beans, which not only make valuable shelter in summer and fall, but also beautify the grounds.

This breed when properly fed make plump broilers at six weeks, and at eight weeks they often weigh 2lb., while at all ages they make very attractive fowls when dressed in the market,

and command the highest prices. The strongest point in favour of the breed is their undisputed winter-laying qualities; as every breeder acknowledges, they cannot be beaten in cold weather, as they are very liberally supplied with feathers which make them impervious to exposure.

Mr. De Graff has experimented in many novel ideas in poultry-house construction, as he expects soon to build an entirely new plant on his farm. This will occupy a six hundred apple-tree orchard and the south slope in front of it, making one of the most ideal locations possible to secure. I saw many ingenious labour-saving ideas in operation, that I have never seen elsewhere. I have not space to describe them, but I advise every reader to send



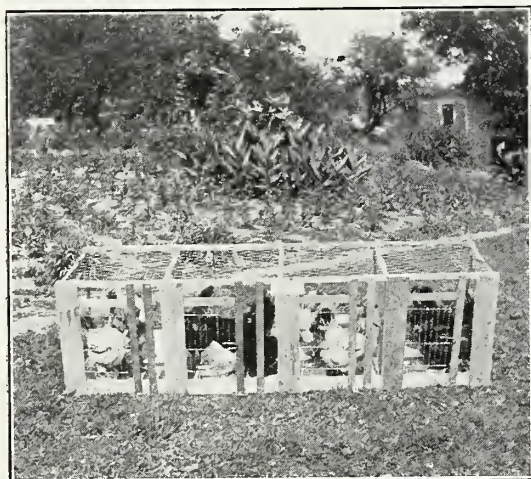
COLONY HOUSES ON MR. DE GRAFF'S FARM.

TRADE SUPPLEMENT



TYPICAL SPECIMENS OF PRIZE-WINNING RHODE ISLAND REDS. OWNED AND BRED BY MR. DE GRAFF.

for Mr. De Graff's catalogue, which gives particulars of all his inventions and his up-to-date poultry-house construction plans. He enjoys exhibiting his birds, and the walls of his office are covered with ribbons won at the leading shows of the country, while at the recent New York State Fair he won every first, second, third, fourth, and fifth prize offered on S.C. Reds. He will



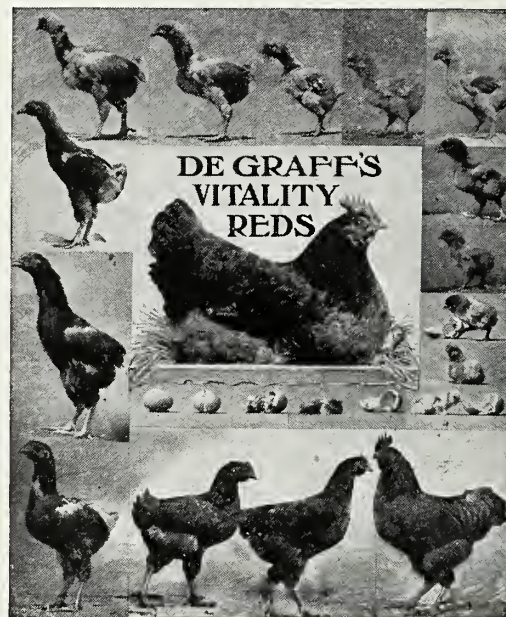
Mr. de Graff uses a very light string coop of his own design, affording fowls the best of sanitary conditions. He has shipped birds to all parts of the world and has never lost one on a foreign shipment.

show 100 birds this year at the same place. He is planning an exhibit of 100 Reds at the Crystal Palace Show at London, and will come over himself if he can make satisfactory arrangements for carrying on his business during his absence.

Although it was late for hatching, I saw by Mr. De Graff's express book that he had shipped over 50 orders in the last two days, and they were packing all the day I was there. These orders ranged from a setting at 1 dol. per egg to a duplicate order of 500 to one man at 15 cents an egg. They go to all parts of the country, carefully protected by pneumatic cushion under boxes and packed in cotton inside. I saw orders from the Argentine Republic, France, and Germany for stock, and reports from England and Scotland, where eggs had been shipped with good results. One shipment to Alaska of 30 eggs, out of which 24 chicks hatched and 23 lived, was a most convincing demonstration of the vitality of this breed.

Mr. De Graff has been a banker and poultry fancier for twenty years, and when he resigned

from the bank a year ago last April he was severely criticised for giving up a good position to raise chickens, as they called it; but he has proved that there are "chickens and chickens." He showed by his bank book that the income from his sales since leaving the bank has amounted to more than all his salary earned in the last twenty years, and his business is increasing every day. His mail, numbering nearly 100 letters a day, coming from every civilised country of the globe, is proof of the wonderful possibilities of advertising in the fancy poultry business, and he says that he intends by systematic advertising and by breeding the very best of stock possible for Nature to produce, raised under the most favourable circumstances by experienced management, to perfect the finest



strain of money-making poultry that the world has ever known. He is already assured of as successful and congenial a business as anyone could ask for. He has bred over twenty of the most popular varieties of poultry, and pronounces the Reds unconditionally "the greatest utility fowls on earth." They are making friends in every country to which they are introduced, while in the country in which they originated there are no other fowls raised at all, proving that the better they are known the better they are liked.

W. BROWN.